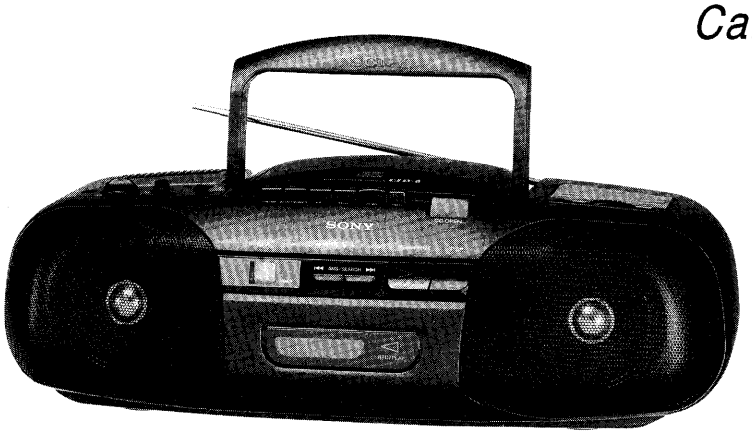
CFD-8

SERVICE MANUAL

US Model
Canadian Model



Model Name Using Similar Mechanism	CD Section	NEW
	Tape Section	CFS-200
Optical Device Type		HPC-1C
Tape Transport Mechanism Type		MF-CFD-8

SPECIFICATIONS

AUDIO POWER SPECIFICATIONS

POWER OUTPUT AND TOTAL HARMONIC DISTORTION

With 3.2-ohm loads, both channels driven from 150-10,000 Hz; rated 2.0 W per channel-minimum RMS power, with no more than 10 % total harmonic distortion in AC operation.

Other specifications

CD player section

System	Compact disc digital audio system
Laser diode properties	Material: GaAlAs Wave length: 780 nm Emission duration: Continuous Laser output: Less than 44.6 µW (This output is the value measured at a distance of about 200 mm from the objective lens surface on the optical pick-up block.)
Spindle speed	200 r/min (rpm) to 500 r/min (rpm) (CLV)
Error correction	Sony Refined Super Strategy Cross Interleave Reed Solomon Code
Number of channels	2
Frequency response	20–20,000 Hz +1.0/–2.5 dB
Wow and flutter	Below measurable limit

Radio section

Frequency range	FM: 87.6–108 MHz AM: 530–1,710 kHz
Antennas	FM: Telescopic antenna AM: Built-in ferrite bar antenna

Cassette-corder section

Recording system	4-track 2-channel stereo
Frequency response	TYPE I (normal) cassette: 70–10,000 Hz

— Continued on page 2 —

使用時は添付資料も参照のこと
Refer to the additional documents

CD RADIO CASSETTE-CORDER

SONY®

General

Speaker	Full range: 10 cm dia., 3.2 ohms cone type
Outputs	Headphones jack (stereo minijack): For 16–68 ohms impedance headphones
Power output (excluding US model)	2.3 W + 2.3 W (at 3.2 ohms, 10% harmonic in DC operation)
Power requirements	120 V AC, 60 Hz DC 9 V, 6 size D (R20) batteries
Power consumption	20 W
Battery life	For CD radio cassette-corder:

	FM recording	Tape playback	CD playback
Sony SUM-1 (NS)	approx. 13.5 h	approx. 7.5 h	approx. 2.5 h
Sony Alkaline AM1	approx. 19 h	approx. 12 h	approx. 4.5 h

Dimensions	Approx. 500 x 156 x 243 mm (w/h/d) (19¾ x 6¼ x 9⅝ in.) incl. projecting parts
Mass	4.1 kg (9 lb) (incl. batteries)
Supplied accessories	AC power cord (1)

Design and specifications subject to change without notice.

Optional accessories

Sony MDR stereo headphone series

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Flexible Circuit Board Repairing

- Keep the temperature of the soldering iron around 270°C during repairing.
- Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
- Be careful not to apply force on the conductor when soldering or unsoldering.

Notes on chip component replacement

- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

LES COMPOSANTS IDENTIFIÉS PAR UNE MARQUE ⚠ SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety check before releasing the set to the customer:
Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microampers). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2 V AC range are suitable. (See Fig. A)

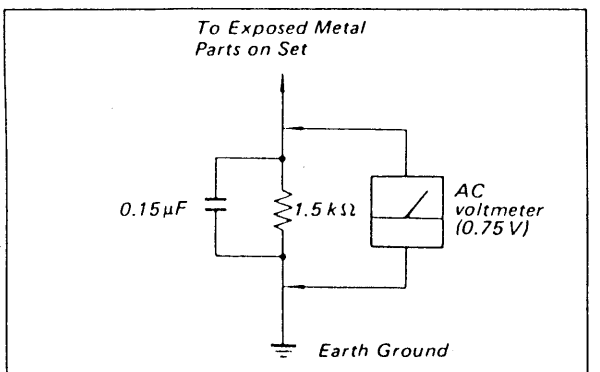


Fig. A. Using an AC voltmeter to check AC leakage.

SECTION 1
SERVICING NOTES

NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK OR BASE UNIT

The laser diode in the optical pick-up block may suffer electrostatic bthereakdown because of the potential difference generated by the charged electrostatic load, etc. on clothing and the human body.
During repair, pay attention to electrostatic brakdown and also use the procedure in the printed matter which is included in the repair parts.
The flexible board is easily damaged and should be handled with care.

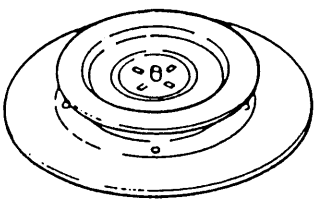
NOTES ON LASER DIODE EMISSION CHECK

The laser beam on this model is concentrated so as to be focused on the disc reflective surface by the objective lens in the optical pick-up block. Therefore, when checking the laser diode emission, observe more than 25 cm away from the objective lens.

CHUCK PLATE JIG ON REPAIRING

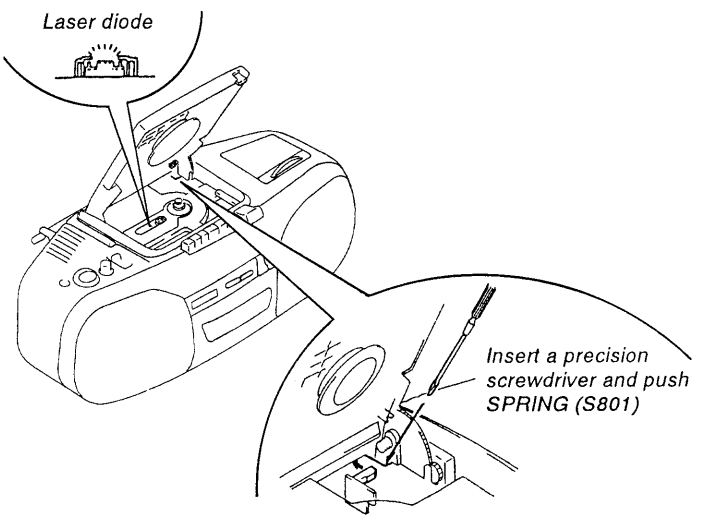
On repairing CD section, playing a disc without the CD lid, use Chuck Plate Jig.

- Code number of Chuck Plate Jig: X-4918-255-1



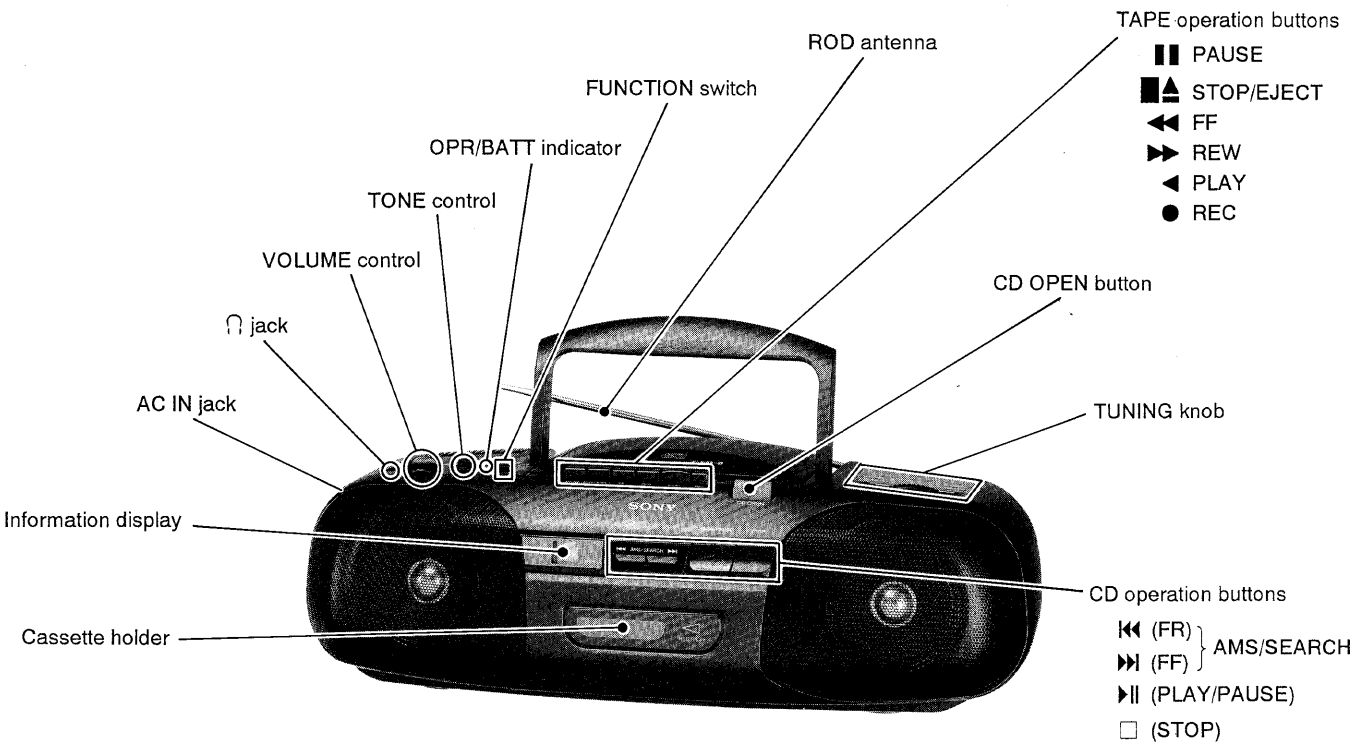
LASER DIODE AND FOCUS SEARCH OPERATION CHECK

1. Press CD open knob.
2. Open the lid for CD.
3. Push on SPRING (S801) as following figure.
4. Confirm the laser diode emission while observing the objecting lens. When there is no emission, Auto Power Control circuit or Optical Pick-up is broken.
   Objective lens moves up and down once for the focus search.



SECTION 2
GENERAL

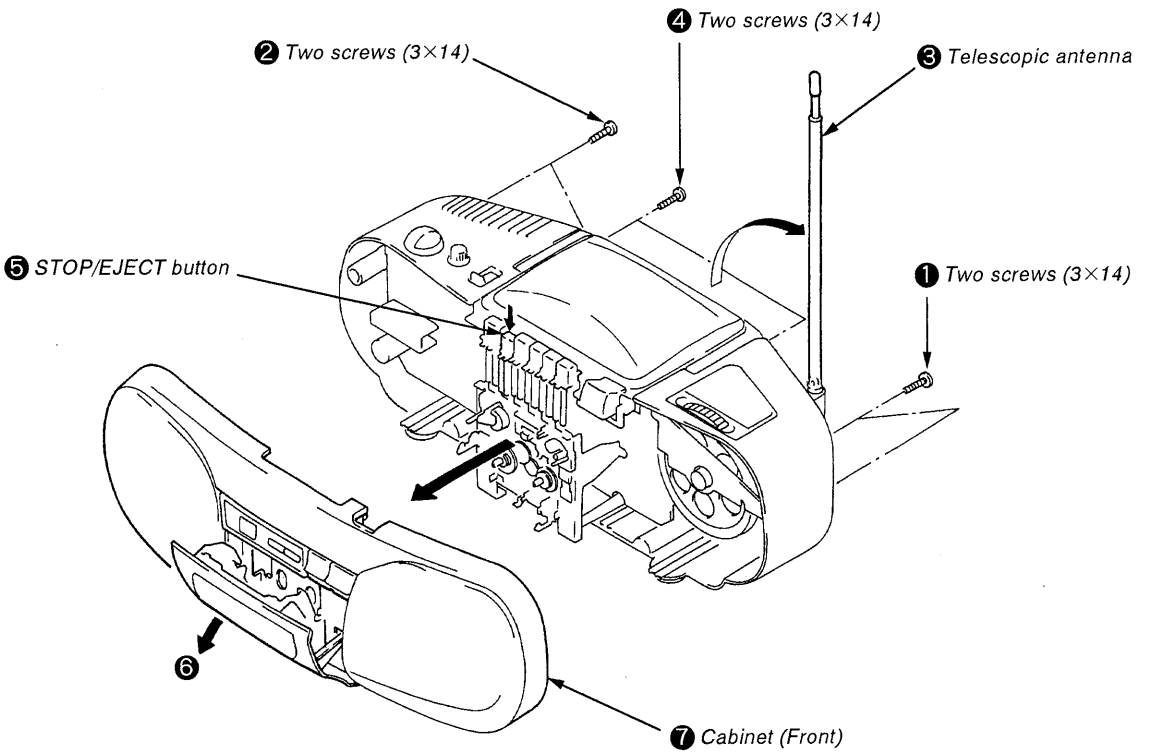
LOCATION AND FUNCTION OF CONTROLS



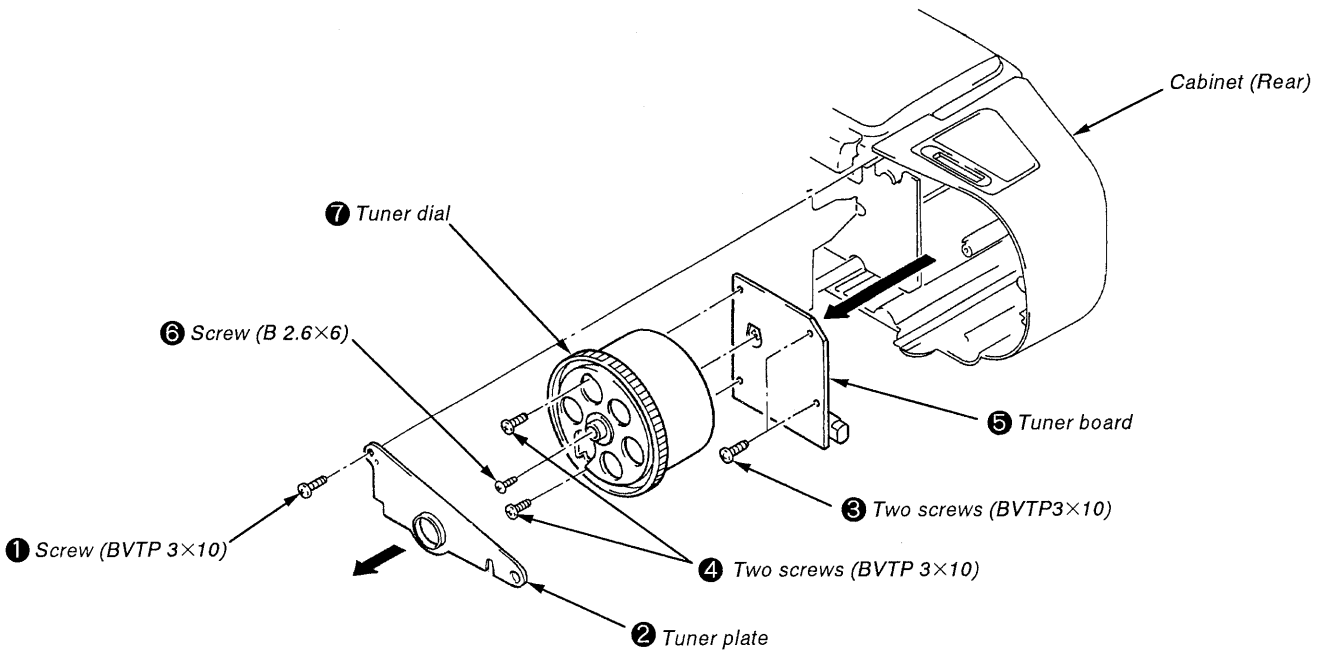
SECTION 3
DISASSEMBLY

Note : Follow the disassembly procedure in the numerical order given.

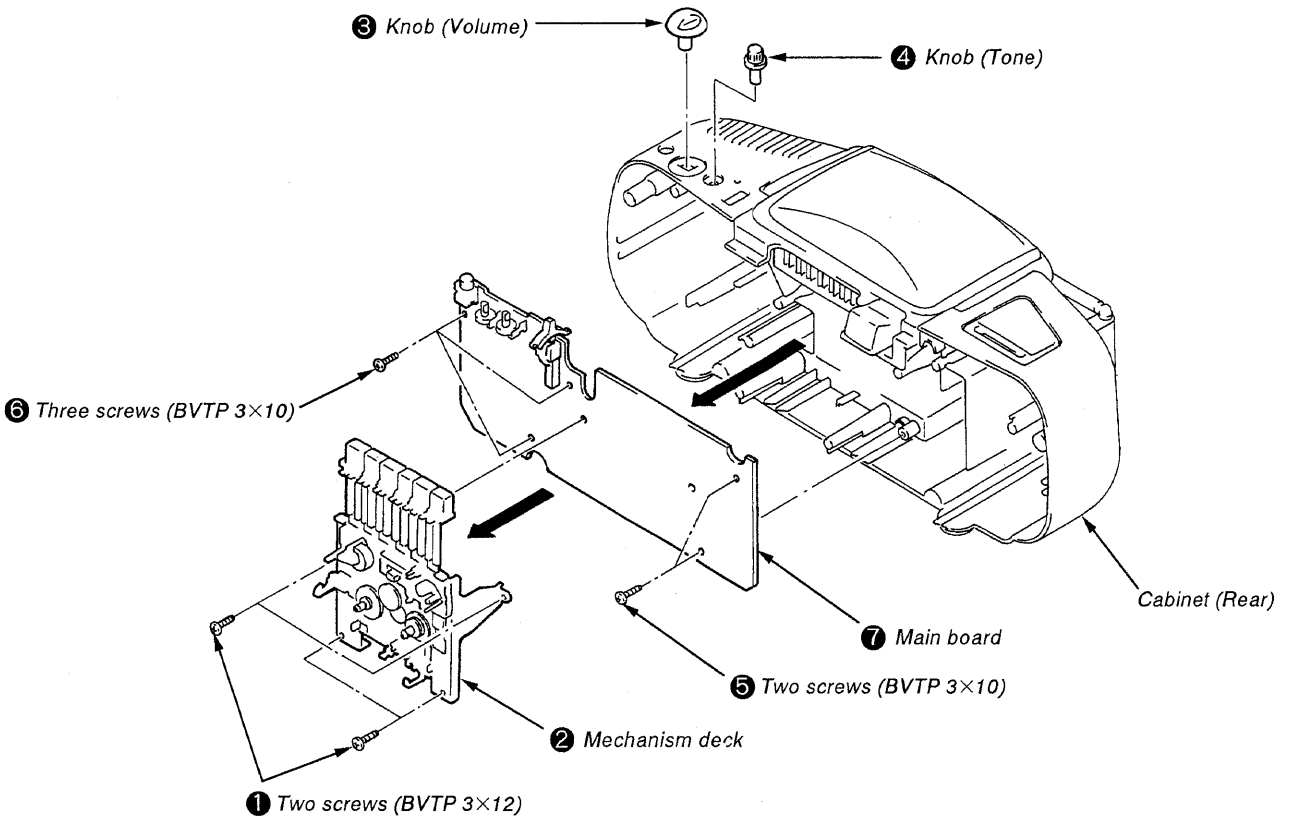
3-1. CABINET (FRONT) REMOVAL



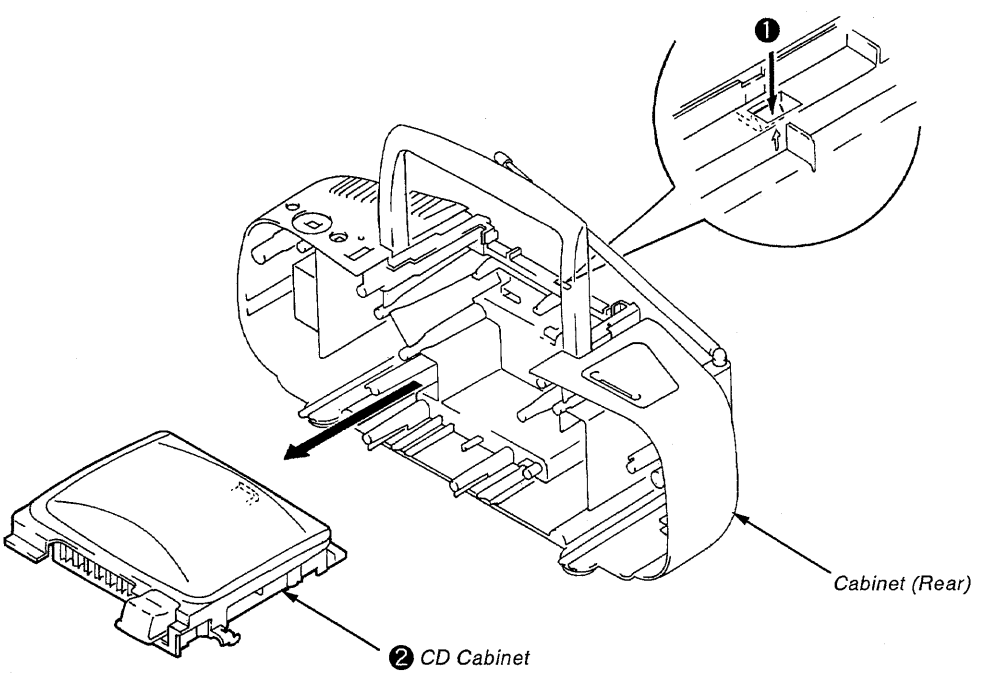
3-2. TUNER DIAL, TUNER BOARD REMOVAL



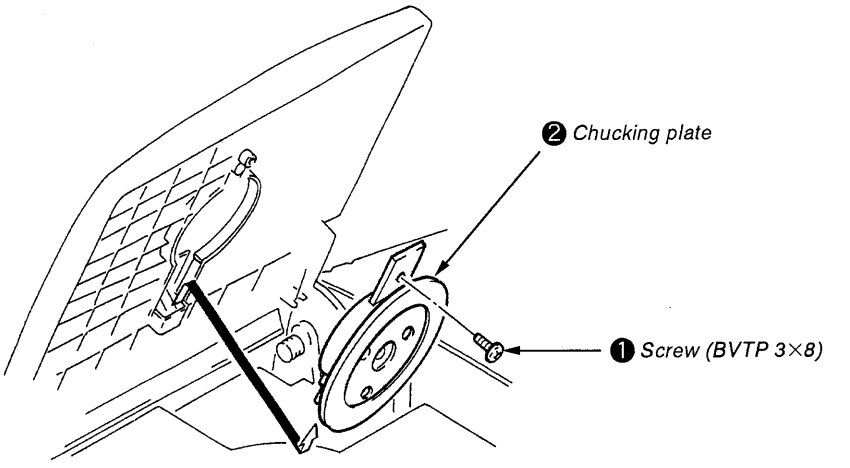
3-3. MECHANISM DECK, MAIN BOARD REMOVAL

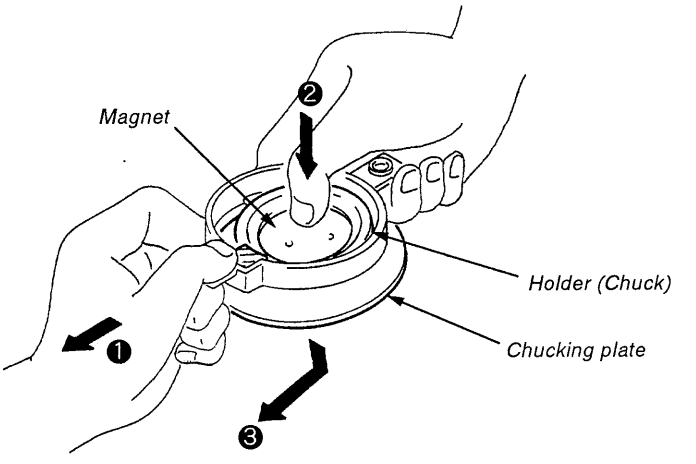


3-4. CD CABINET, CABINET (REAR) REMOVAL



3-5. MAGNET, CHUCKING PLATE REMOVAL

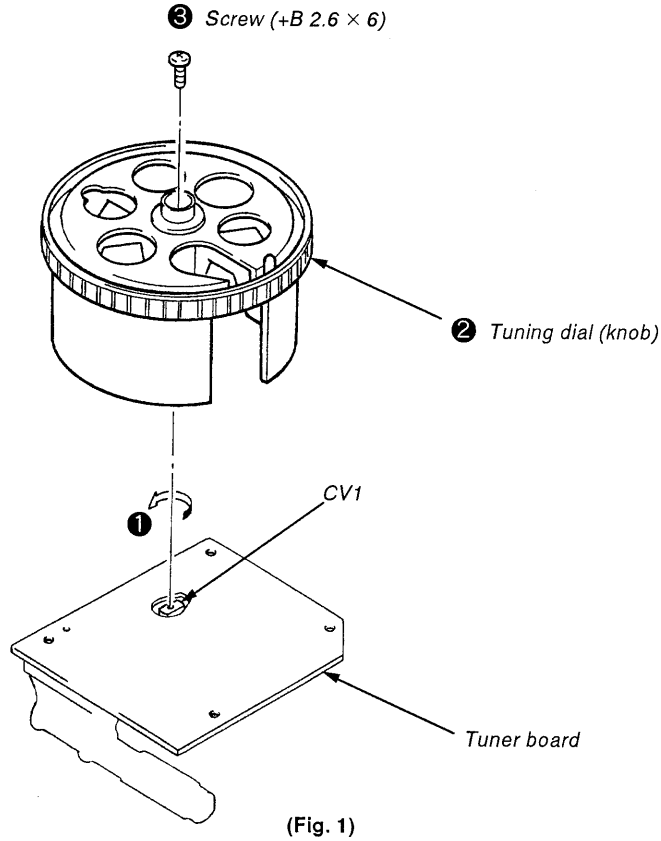




SECTION 4
DIAL POINTER INSTALLATION

Note : Follow the installation procedure in the numerical order given.

1. Turn CV1 fully to arrow direction.
2. Fit CV1 to hole of tuning dial (knob) and then install it. (Fig.1)



(Fig. 1)

SECTION 5
ADJUSTMENTS

5-1. MECHANICAL ADJUSTMENTS

PRECAUTION

1. Clean the following parts with a denatured-alcohol-moistened swab :
   record/playback head — pinch roller
   erase head — rubber belts
   capstan — idlers
2. Demagnetize the record/playback head with a head demagnetizer. (Do not bring the head demagnetizer close to the erase head.)
3. Do not use a magnetized screwdriver for the adjustments.
4. After the adjustments, apply suitable locking compound to the parts adjusted.
5. The adjustments should be performed with the rated power supply voltage unless otherwise noted.
6. Power supply voltage : 9V dc.

Torque Measurement

Torque	Torque Meter	Meter Reading
Forward	CQ-102C	30 – 70g•cm (0.42 – 0.97 oz•inch)
Forward back tension	CQ-102C	1.5 – 5.5g•cm (0.020 – 0.076 oz•inch)
Fast Forward	CQ-201B	more than 60g•cm (more than 0.84 oz•inch)
Rewind	CQ-201B	more than 60g•cm (more than 0.84 oz•inch)

Tape Tension Measurement

Torque Meter	Meter Reading
CQ-403A	more than 100g (more than 3.53 oz)

5-2. ELECTRICAL ADJUSTMENTS

TAPE RECORDER SECTION

Standard Output Level

Output terminal	HP OUT
load impedance	32 Ω
output signal level	0.25V (– 10dB)

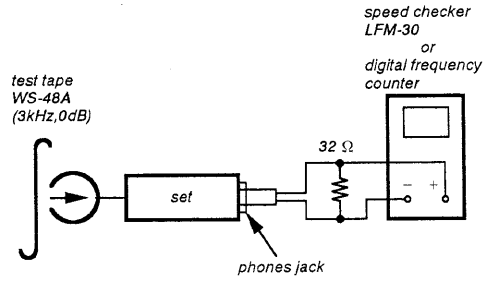
Test Tape

Type	Signal	Used for
WS-48A	3kHz, 0dB	Tape Speed Adjustment
P-4-A063	6.3kHz, – 10dB	Head azimuth Adjustment

Tape Speed Adjustment

Procedure :

Mode : playback

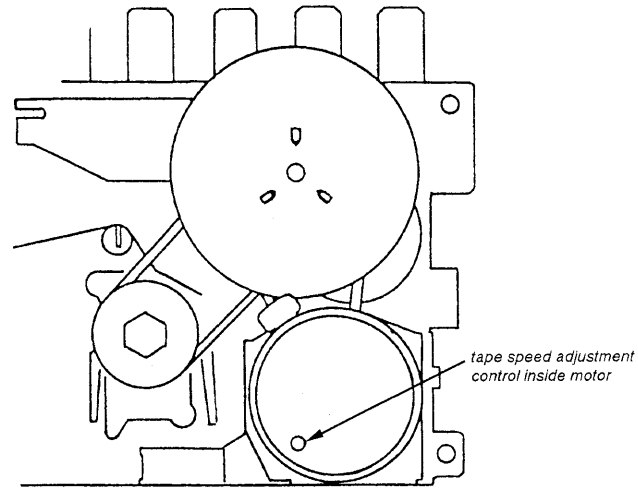


Adjustment Value :

Speed checker	Digital frequency counter
– 1 to +1%	2,970 – 3,030 Hz

Frequency difference between the beginning and the end of the tape should be within 1.5%(45Hz) .

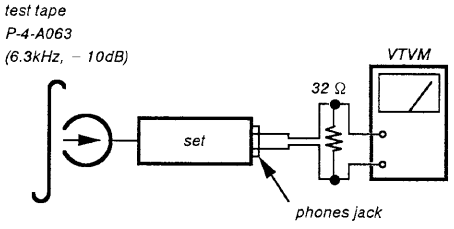
Adjustment Location :



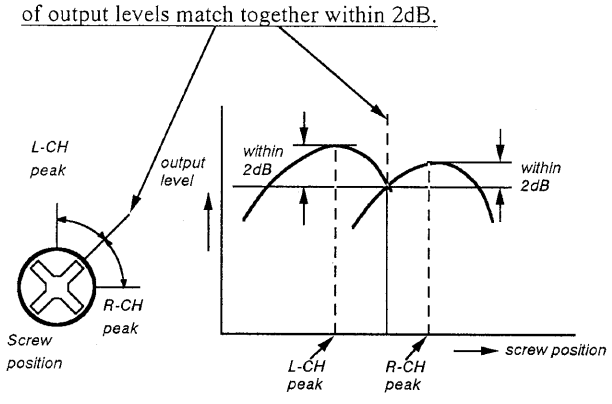
Record/Playback Head Azimuth Adjustment

Procedure :

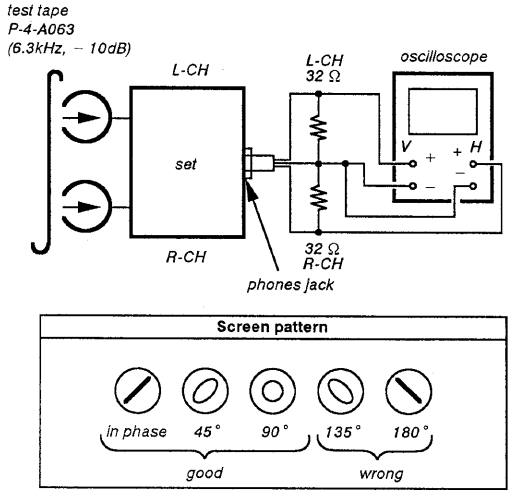
1. Mode : playback



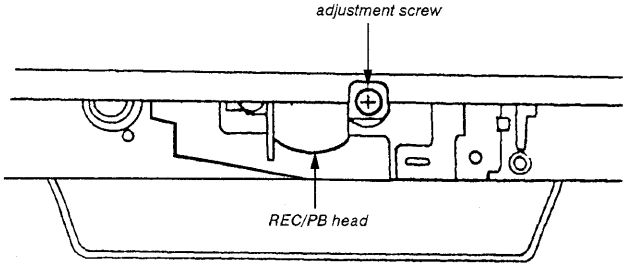
2. Turn the adjustment screw for the maximum output levels. If these levels do not match, turn the adjustment screw until both of output levels match together within 2dB.



3. Phase Check
   Mode : playback



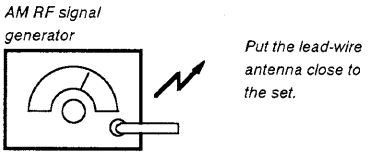
Adjustment Location : – record/playback head –



TUNER SECTION

AM Section

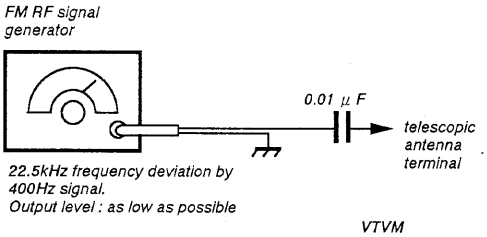
Function switch : AM
Volume : MIN



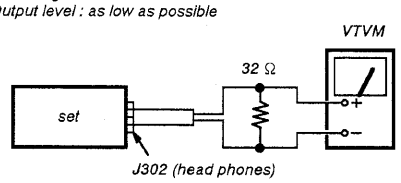
30% amplitude modulation by 400Hz signal.
Output level : as low as possible

FM Section

Function switch : FM
Volume : MIN



22.5kHz frequency deviation by 400Hz signal.
Output level : as low as possible



- Repeat the procedures in each adjustment several times, and the frequency coverage and tracking adjustments should be finally done by the trimmer capacitors.

AM IF ALIGNMENT	
Adjust for a maximum reading on VTVM.	
CFT1	455kHz

AM FREQUENCY COVERAGE ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
L4	520kHz
CT1-4	1,780kHz

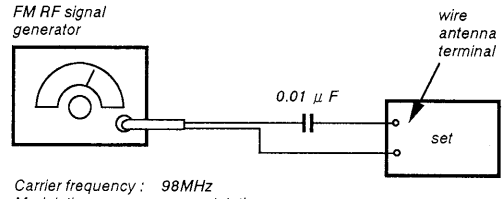
AM TRACKING ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
L3	620kHz
CT1-3	1,400kHz

FM FREQUENCY COVERAGE ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
L2	86.5MHz
CT1-2	109.5MHz

FM TRACKING ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
Confirm	92.0MHz
CT1-1	104.0MHz

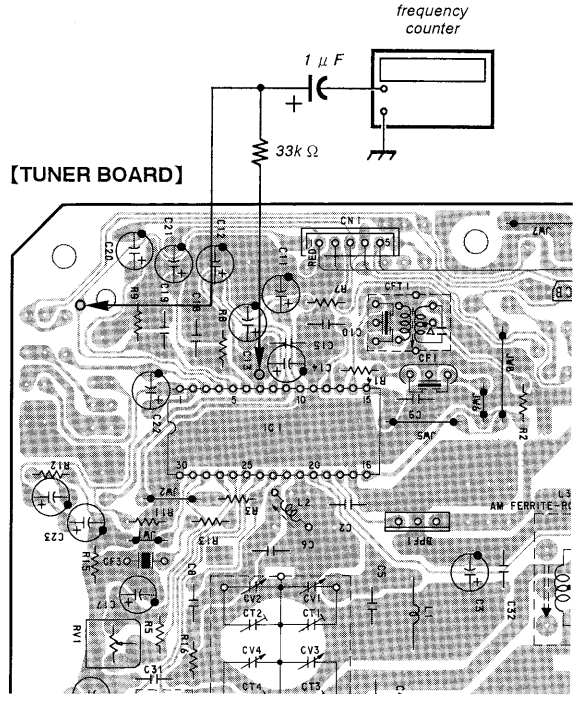
VCO Adjustment

Procedure :



Carrier frequency : 98MHz
Modulation : no modulation
Output level : 1.38mV (− 55dB)

1. Connect the frequency counter to ④ and ⑦ pins of IC1 as shown the figure below.
2. Turn the set to 98MHz.
3. Adjust RV1 for 76kHz ± 500Hz reading on frequency counter.



CD SECTION

Note on Adjustment

1. Perform adjustment in test mode.
   After adjustment, be sure to release test mode.
2. Perform adjustments in the order given.
3. Use the disc (YEDS-18. Part No. 3-702-101-01) only when so indicated.

Before adjustment

Put the set into test mode and perform the following checks. Repair if there are any problems.

- **Sled Motor Check**

1. press ▶|| key, then press OFF button.
2. Press ▶▶| , |◀◀ keys and confirm that the Optical pick-up moves smoothly from the innermost to outermost circumference and back smoothly and with no catching or abnormal noises. (Cancellation of BTL mute)
   ▶▶| : Optical pick-up moves to the outer circumference
   |◀◀ : Optical pick-up moves to the inner circumference

- **Focus Search Check**

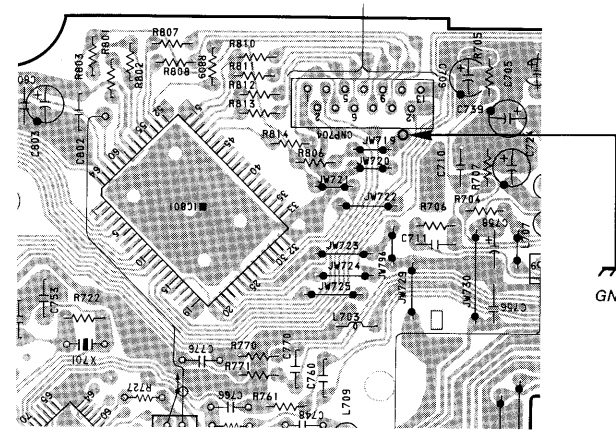
1. Press ▶|| key. (Focus search operation is performed continuously.)
2. Look at the Optical pick-up objective lens and confirm that it moves up and down smoothly, with no catching or abnormal noises.
3. Press □ button.
   Confirm that focus search operation stops. If it does not , press OFF button again longer.

Note : When the malfunction is occurred by mis-passing other keys, turn off the power and check again from making the test mode.

How to Put the Set into Test Mode

1. Short-circuit following portion (IC801 ㉔ pin) on the MAIN board.
2. Turn the POWER on.
3. Open the short-circuit to release test mode.

【MAIN BOARD】



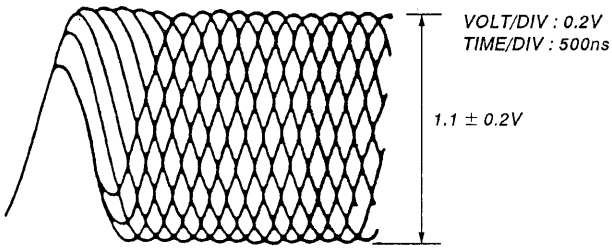
Focus Bias Adjustment

This adjustment is to be done when the optical block is replaced.

Adjustment procedure :

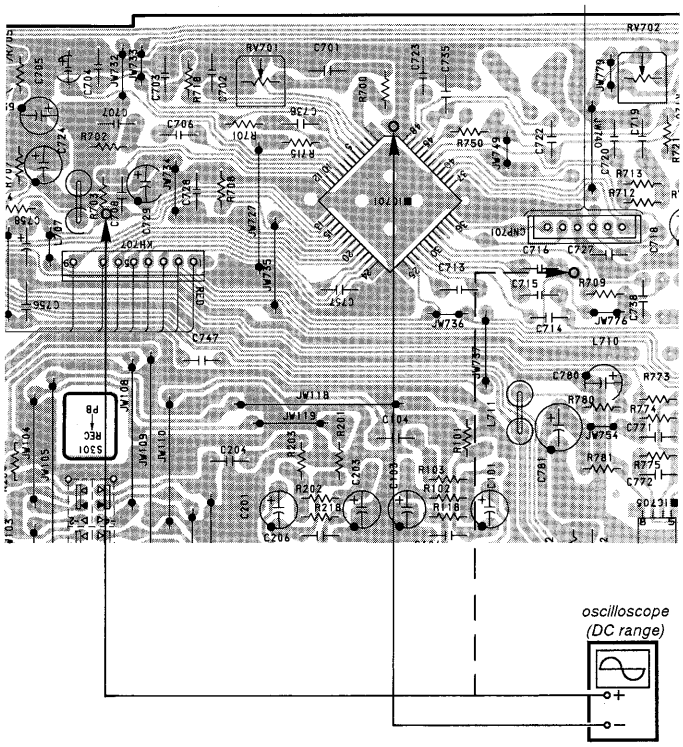
1. Connect oscilloscope to test point TP (VC) and TP (RFO) on main board.
2. Put the set into test mode.
3. Optical pic-up setting to the center by ⏭ or ⏮ button pushing.
4. Put disc (YEDS-18) in and press the ⏯ button.
5. Press the ⏯ button.(Tracking servo ON)
6. Adjust RV702 so that the oscilloscope waveform is as shown in the figure below (eye pattern).
   A good eye pattern means that the diamond shape (◇) in the center of the waveform can be clearly distinguished.
7. Release test mode after adjustment is completed.

- RF signal reference waveform (eye pattern)



When observing the eye pattern, set the oscilloscope for AC range and raise vertical sensitivity.

【MAIN BOARD】



Focus/Tracking Gain Adjustment

A frequency responce analyzer is necessary in order to perform this adjustment exactly.

However, this gain has a margin, so even if it is slightly off, there is no problem. Therefore, do not perform this adjustment.

Focus/tracking gain determines the pick-up follow-up (vertical and horizontal) relative to mechanical noise and mechanical shock when the 2-axis device operate.

However, as these reciprocate, the adjustment is at the point where both are satisfied.

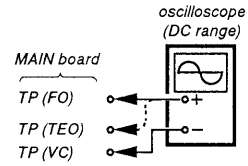
- When gain is raised, the noise when the 2-axis device operates increases.
- When gain is lowered, mechanical shock and skipping occurs more easily.
- When gain adjustment is off, the symptoms below appear.

Symptoms \ Gain	Focus	Tracking
• The time until music starts becomes longer for STOP → ▷ PLAY or automatic selection. (⏮, ⏭ buttons pressed.) (Normally takes about 2 seconds.)	low	low or high
• Music does not start and disc continues to rotate for STOP →▷ PLAY or automatic selection. (⏮, ⏭ buttons pressed.)	–	low
• Sound is interrupted during PLAY. Or time counter display stops progressing.	–	low
• More noise during 2-axis device operation.	high	high

The following is a simple adjustment method.

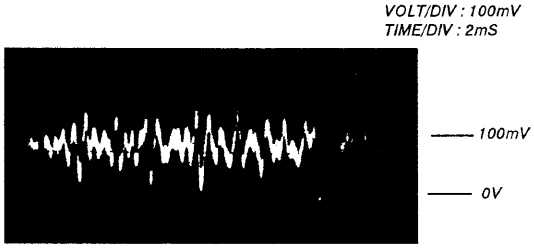
– Primary Adjustment –

Note : Since exact adjustment cannot be performed, remember the positions of the controls before performing the adjustment.If the positions after the primary adjustment are only a little different, return the controls to the original position.

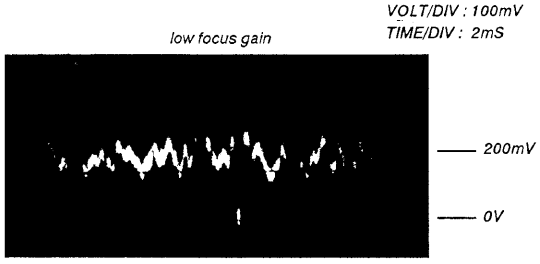


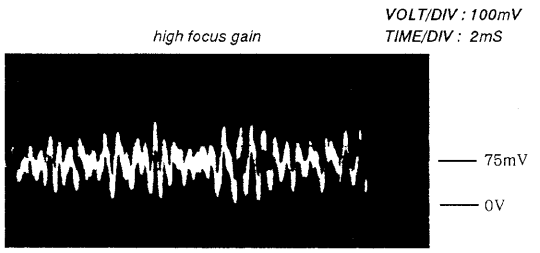
Procedure :

1. Keep the set horizontal.
   (If the set is not horizontal, this adjustment cannot be performed due to the gravity against the 2-axis device.)
2. Insert disc (YEDS-18) and press ⏯ button.
3. Connect oscilloscope to TP(FO) and TP (VC) on MAIN board.
4. Adjustment RV701 on digital board so that the waveform is as shown in the figure below. (focus gain adjustment)



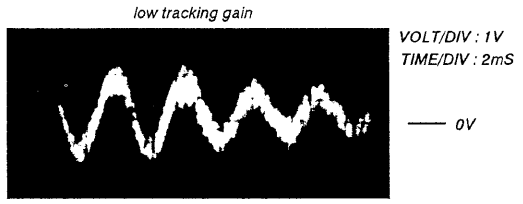
- Incorrent Examples (DC level changes more than on adjusted waveform)

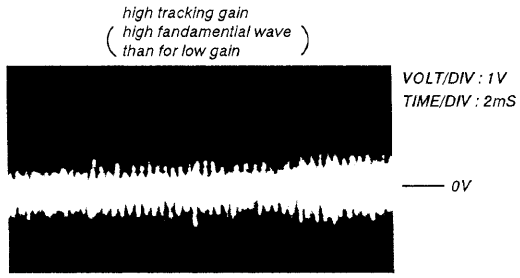




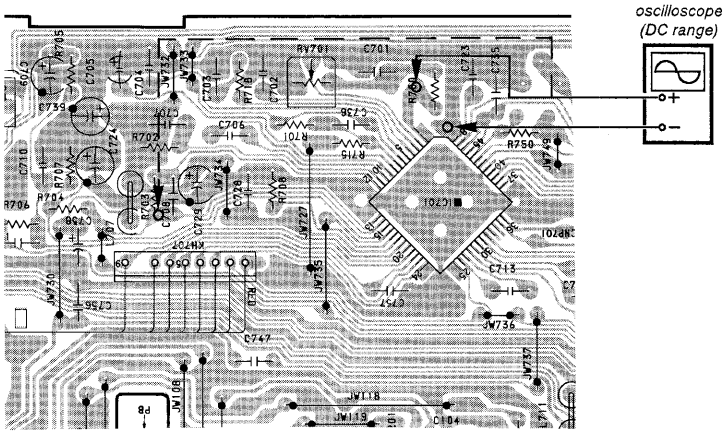
5. Connect oscilloscope to TP(TEO) and TP(VC) on MAIN board.
6. Confirm that the TRACKING GAIN & PHASE MARGIN are in specification.

- Incorrect Examples (fundamential wave appears)

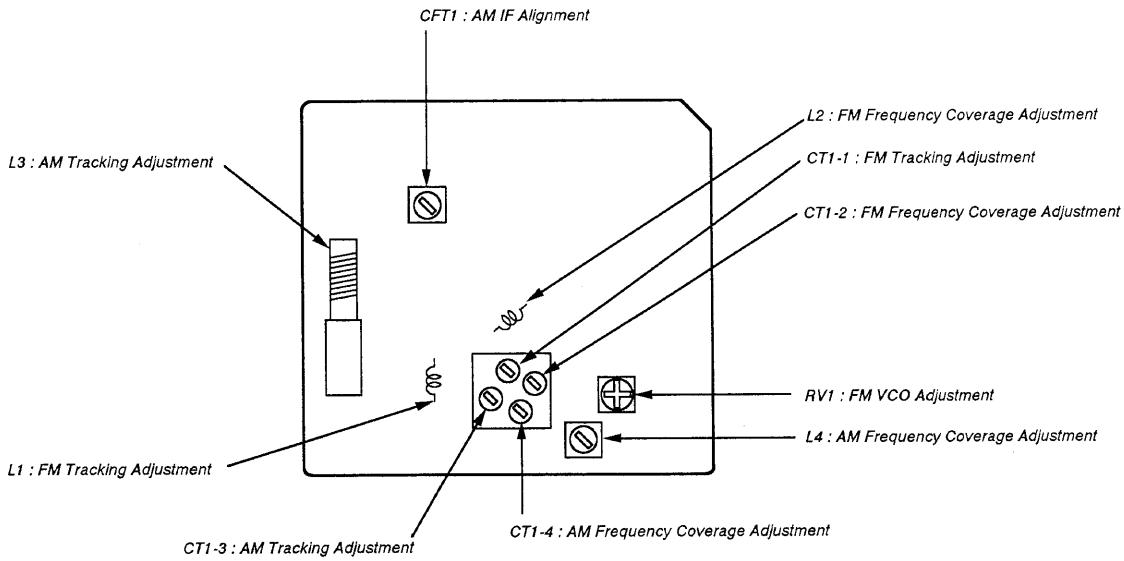




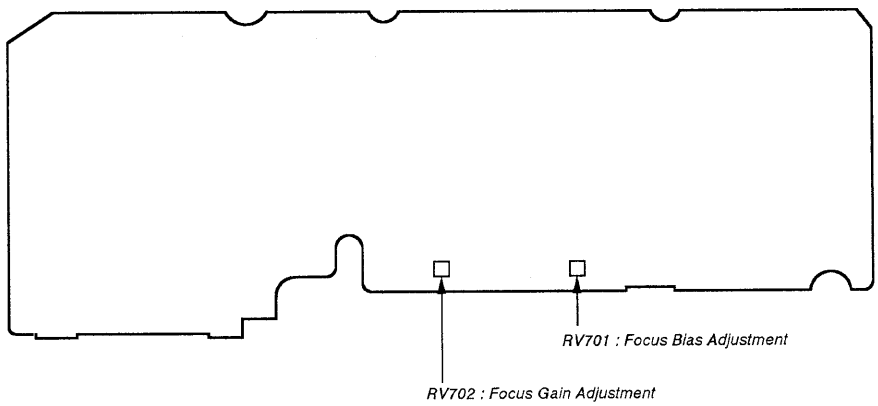
[MAIN BOARD]



Adjustment Location : Tuner board (Component side)

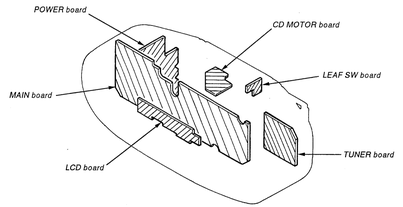

CFT1 : AM IF Alignment
L2 : FM Frequency Coverage Adjustment
CT1-1 : FM Tracking Adjustment
CT1-2 : FM Frequency Coverage Adjustment
L3 : AM Tracking Adjustment
RV1 : FM VCO Adjustment
L4 : AM Frequency Coverage Adjustment
L1 : FM Tracking Adjustment
CT1-4 : AM Frequency Coverage Adjustment
CT1-3 : AM Tracking Adjustment

Adjustment Location : Main board (Component side)



SECTION 6
DIAGRAMS

6-1. CIRCUIT BOARD LOCATION



• SEMICONDUCTOR LEAD LAYOUTS

PST994D-T

RN1201TPE4

RD3.6ES-TPB2
RD5.6ES-TPB3
RD6.8ES-TPB3

2SB1013-4
2SC945-P
2SC2001TP-K1K2

BA1A4P
BA1L3M-TP
2SA1175-HFE

GL3PR8

LT2A02
2A02

BA1L4L-TP
DTA114YS
DTC143ES
DTC143TS
DTC143XS
DTC144WS
RN1207
RN1209
RN1210
2SD2396

RD3.6ES-B2
RD5.6ES-B2
RD6.8ES-B2
1SS133

• SEMICONDUCTOR LOCATION

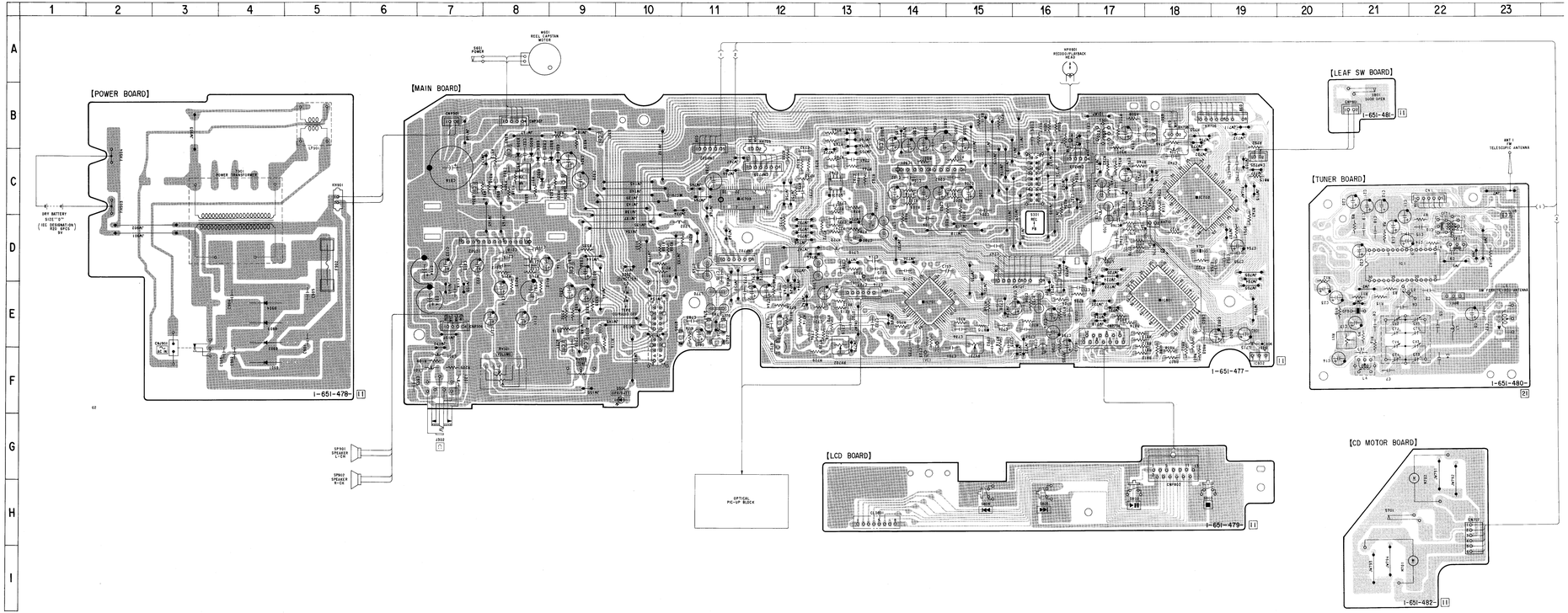
Ref. No.	Location
D301	C - 8
D302	C - 8
D303	C - 8
D305	C - 8
D306	F - 10
D307	C - 9
D308	C - 9
D309	C - 8
D310	E - 9
D901	F - 4
D902	E - 4
D903	E - 4
D904	E - 4
IC1	D - 21
IC301	C - 14
IC302	D - 8
IC701	E - 14
IC702	B - 18
IC703	C - 11
IC705	C - 13
IC801	E - 18
IC802	F - 19
Q1	D - 23
Q101	E - 9
Q201	E - 9
Q301	B - 18
Q302	B - 14
Q303	C - 8
Q304	C - 9
Q305	C - 8
Q306	C - 7
Q307	B - 9
Q308	D - 9
Q701	E - 12
Q702	E - 11
Q703	E - 12
Q705	E - 10
Q760	E - 11
Q770	E - 11

Note:

- ○— : parts extracted from the component side.
- ■ : parts mounted on the conductor side.
- ▒▒ : Pattern on the side which is seen.

6-2. PRINTED WIRING BOARDS (FORMER TYPE)

FORMER TYPE



6-3. PRINTED WIRING BOARDS (NEW TYPE)

NEW TYPE

• SEMICONDUCTOR LOCATION

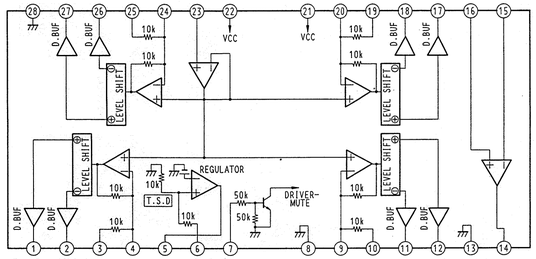
Ref. No.	Location
D301	C - 8
D302	C - 8
D303	C - 8
D305	C - 8
D306	F - 10
D307	C - 9
D308	C - 9
D309	C - 8
D310	E - 9
D601	F - 4
D902	E - 4
D903	E - 4
D904	E - 4
IC1	D - 21
IC301	C - 14
IC302	D - 8
IC701	E - 14
IC702	C - 16
IC703	C - 11
IC705	C - 13
IC801	E - 18
IC802	F - 19
Q1	D - 23
Q101	E - 9
Q201	E - 9
Q301	B - 18
Q302	B - 14
Q303	C - 8
Q304	C - 9
Q305	C - 8
Q306	C - 7
Q307	B - 9
Q308	D - 9
Q701	F - 12
Q702	E - 11
Q703	E - 12
Q705	E - 10
Q760	E - 11
Q770	E - 11

Note:

- ○— : parts extracted from the component side.
- ■ : parts mounted on the conductor side.
- ▨ : Pattern on the side which is seen.

● IC BLOCK DIAGRAM

IC703 BA6296FP



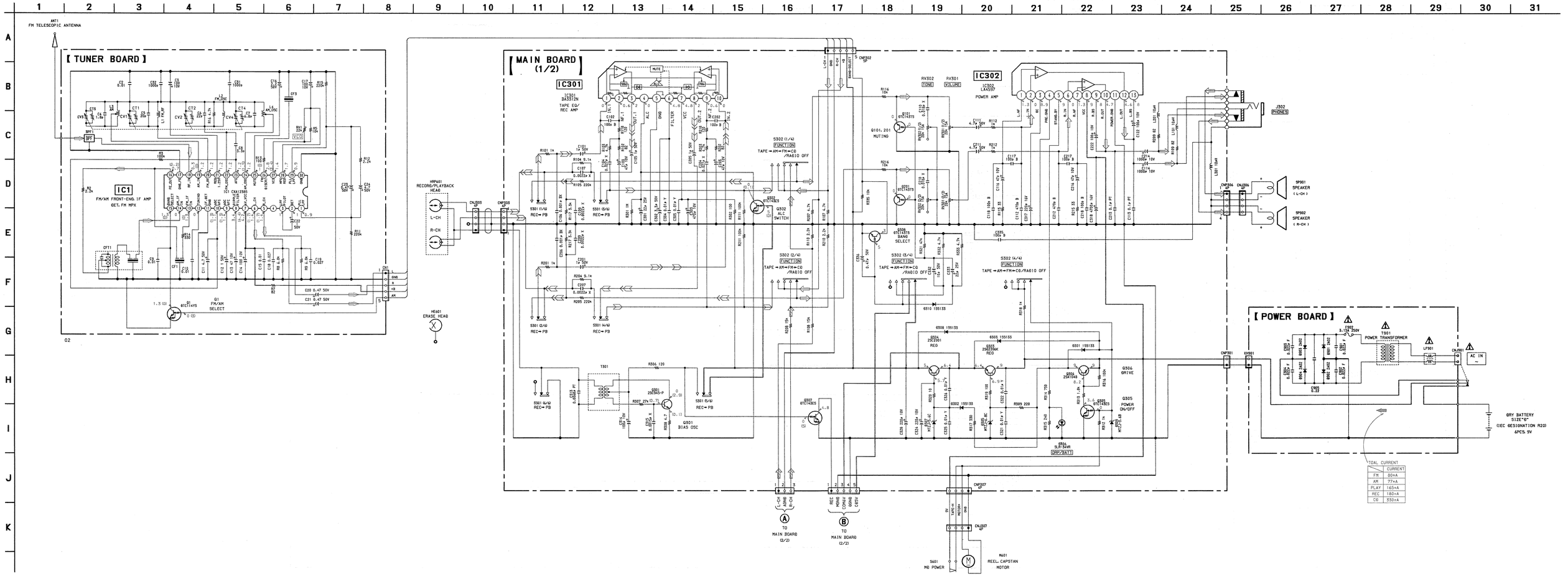
Note :

- All capacitors are in μ F unless otherwise noted. pF: μ μ F 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and ¼W or less unless otherwise specified.
- % : indicates tolerance.
- Δ : internal component.

Note :	Note :
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

- ▬▬ : B+ Line
- ▭ : adjustment for repair.
- Voltage and waveforms are dc with respect to ground under no-signal (detuned) conditions.
  - no mark : FM (RADIO SECTION)
  - ( ) : AM (RADIO SECTION)
  - no mark : PLAYBACK (AUDIO SECTION)
  - ( ) : REC (AUDIO SECTION)
  - no mark : STOP (CD SECTION)
  - ( ) : PLAYBACK (CD SECTION)
- Voltages are taken with a VOM (Input impedance 10M Ω). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  - ⇨ : FM
  - ⇨ : PB
  - ⇨ : CD
  - ⇨ : REC

6-4. SCHEMATIC DIAGRAM (MAIN SECTION (1))



6-5. SCHEMATIC DIAGRAM (MAIN SECTION (2))

【LCD BOARD】

【MAIN BOARD (2/2)】

【LEAF SW BOARD】

【CD MOTOR BOARD】

OPTICAL PICK-UP BLOCK

IC801 CXP55840-470Q SYSTEM CONTROL

IC701 CXA1962Q RF AMP

IC702 CX02519Q DIGITAL SIGNAL PROCESSOR/ D/A CONVERTER/DIGITAL FILTER

IC703 FOCUS/TRACKING COIL DRIVE

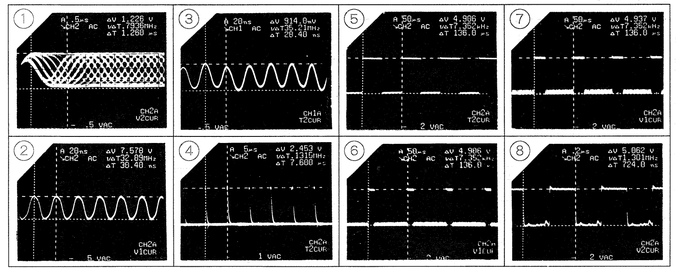
IC705 MIX/FILTER

Q701 LASER POWER CONTROL

Q705 MUTE DRIVE

Q740, 770 MUTING

• WAVEFORMS



Note :

- All capacitors are in μ F unless otherwise noted. pF: μ μ F 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and ¼W or less unless otherwise specified.
- % : indicates tolerance.
- △ : internal component.

Note :	Note :
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

- ▬▬ : B+ Line
- ▭ : adjustment for repair.
- Voltage and waveforms are dc with respect to ground under no-signal (detuned) conditions.
  - no mark : FM (RADIO SECTION)
  - ( ) : AM (RADIO SECTION)
  - no mark : PLAYBACK (AUDIO SECTION)
  - ( ) : REC (AUDIO SECTION)
  - no mark : STOP (CD SECTION)
  - ( ) : PLAYBACK (CD SECTION)
- Voltages are taken with a VOM (Input impedance 10M Ω). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  - ▱▱ : CD

SECTION 7
EXPLODED VIEWS

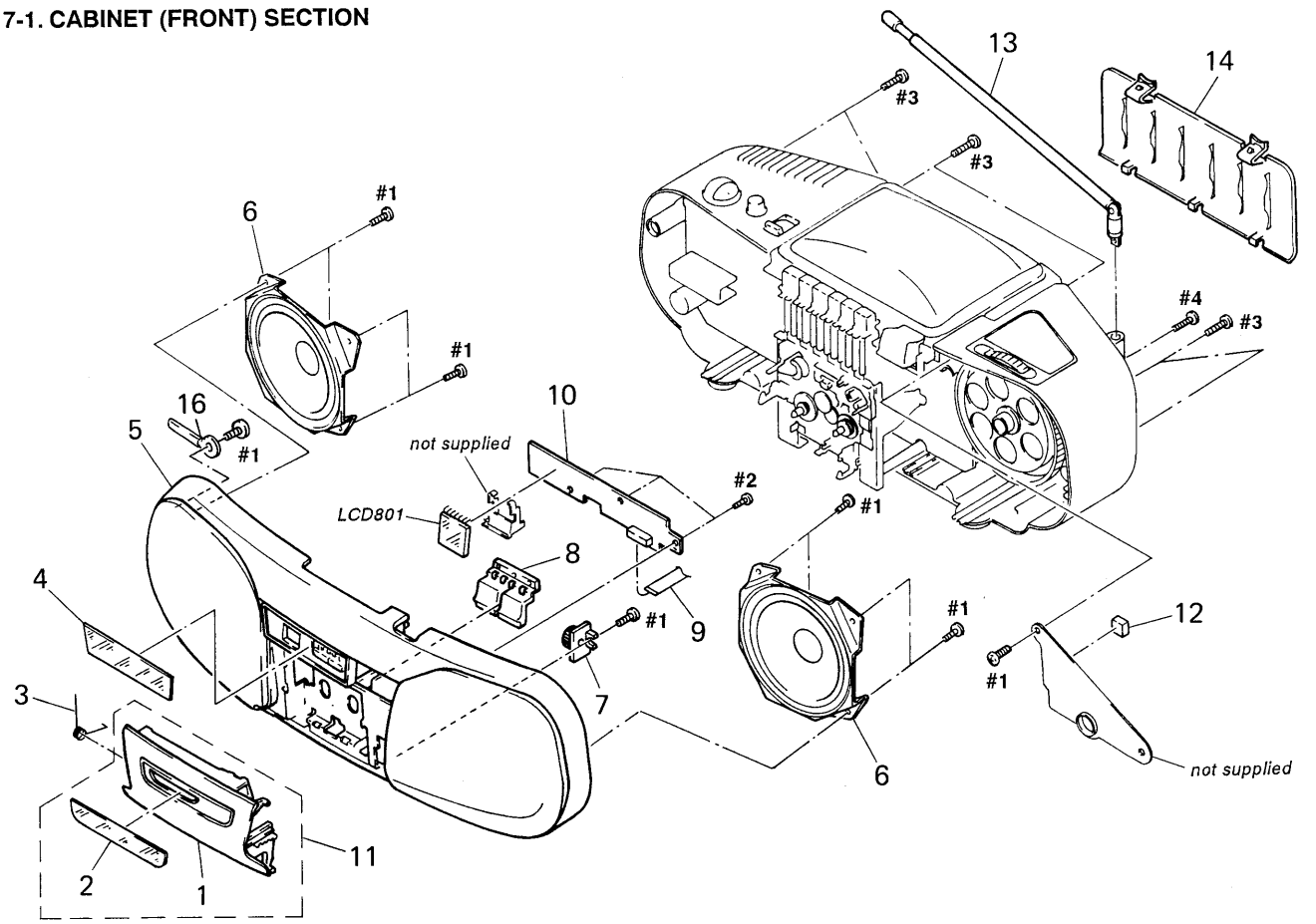
NOTE :

- -XX, -X mean standardized parts, so they may have some difference from the original one.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Color indication of Appearance Parts Example :
  KNOB, BALANCE (WHITE)....(RED)
  ↑ ↑
  Parts color Cabinet's color
- Items marked " * "are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list and accessories and packing materials are given in the last of this parts list.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

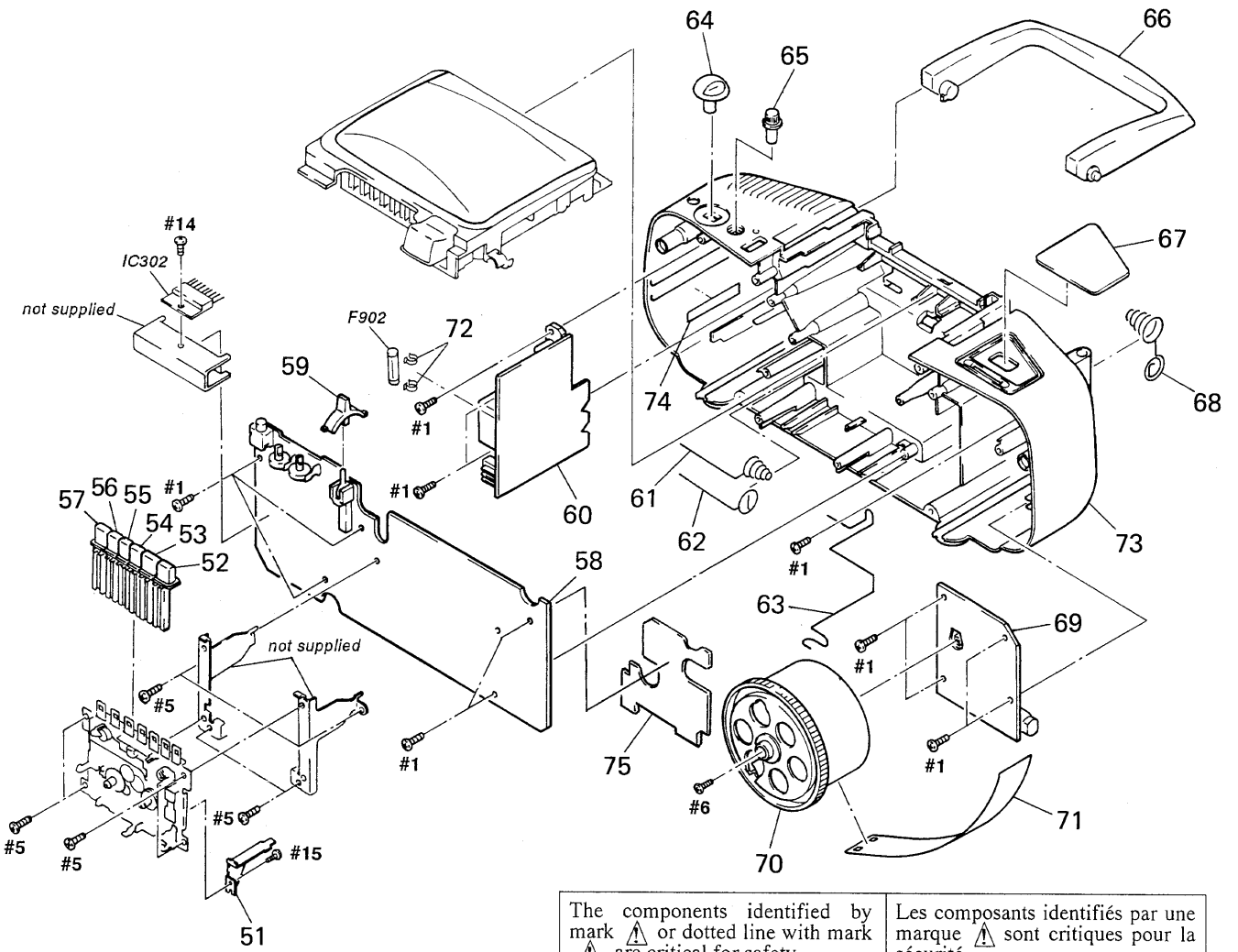
Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

7-1. CABINET (FRONT) SECTION



Ref. No.	Part No.	Description	Remark
1	3-910-121-01	HOLDER, CASSETTE (US:Made in MALAYSIA, Canadian)	
2	3-910-085-01	WINDOW, CASSETTE (US:Made in MALAYSIA, Canadian)	
3	3-910-086-01	SPRING (CASSETTE)	
4	3-910-099-01	WINDOW, LCD	
5	X-3367-834-1	CABINET (FRONT) SUB ASSY (US:Made in MALAYSIA, Canadian)	
5	X-3367-995-1	CABINET (FRONT) SUB ASSY (US:Made in Indonesia)	
6	1-504-505-11	SPEAKER (10CM) (US:Made in MALAYSIA, Canadian)	
6	1-504-548-11	SPEAKER (10CM) (US:Made in Indonesia)	
7	3-351-377-01	DAMPER	
8	3-910-117-01	BUTTON, CD	
9	1-765-085-11	WIRE, PARALLEL (FFC) (13 CORE)	
* 10	1-651-479-11	LCD BOARD	
11	X-3368-612-1	HOLDER ASSY, CASSETTE (US:Made in Indonesia)	
12	3-913-348-01	FELT	
13	1-501-388-11	ANTENNA, TELESCOPIC	
14	3-343-064-01	LID, BATTERY CASE(US:Made in Indonesia)	
14	3-915-535-01	LID, BATTERY CASE (US:Made in MALAYSIA, Canadian)	
16	3-703-150-11	STOPPER, WIRING	
LCD801	1-810-442-11	DISPLAY PANEL, LIQUID CRYSTAL	

7-2. CABINET (REAR) SECTION

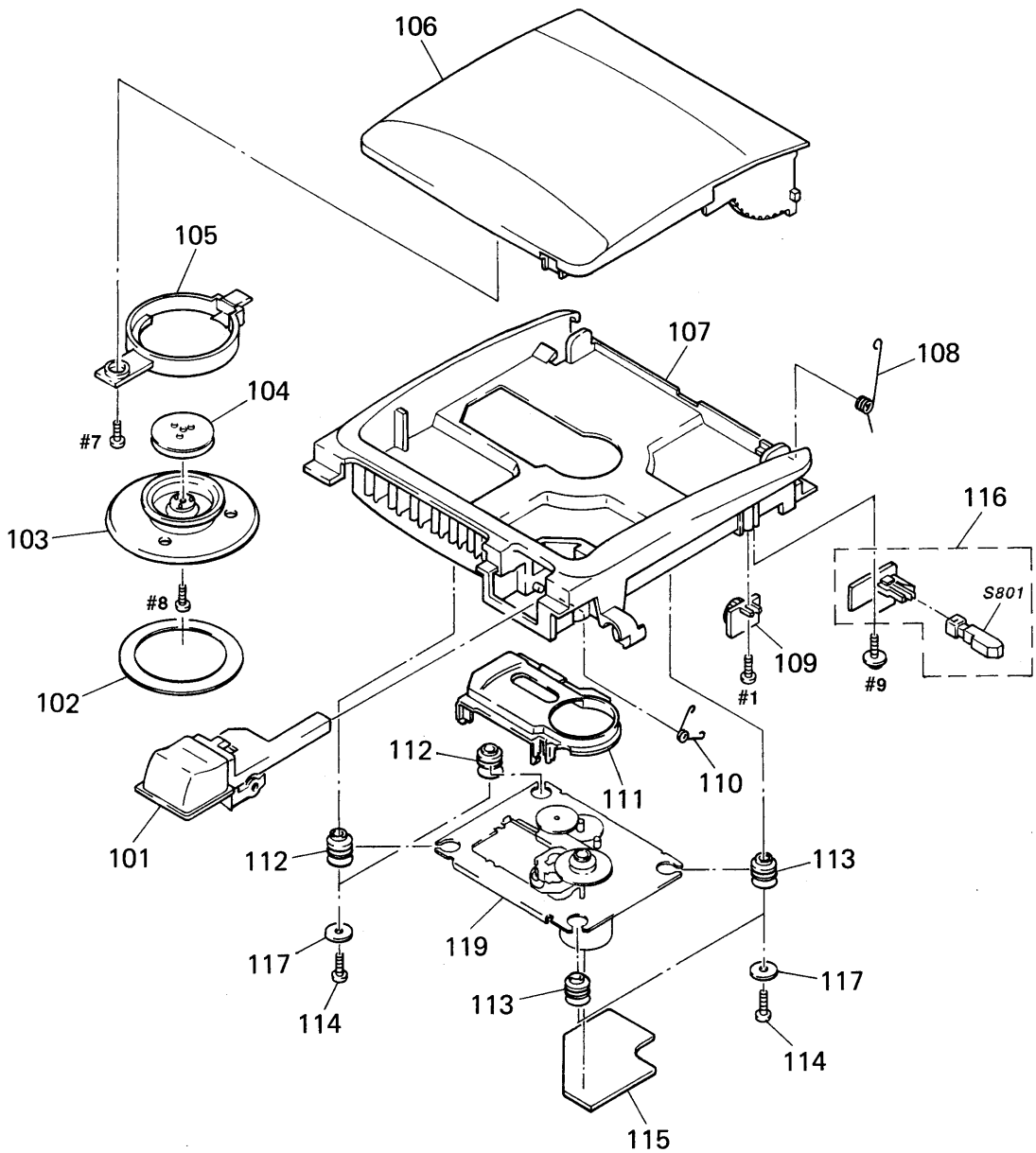


The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	Description	Remark
51	3-910-098-01	LEVER (REC)	
52	3-910-103-01	BUTTON (REC), MD	
53	3-910-106-01	BUTTON (PLAY), MD	
54	3-910-105-01	BUTTON (REW), MD	
55	3-910-104-01	BUTTON (FF), MD	
56	3-910-107-01	BUTTON (STOP), MD	
57	3-910-102-01	BUTTON (PAUSE), MD	
* 58	A-3276-271-A	MAIN BOARD, COMPLETE(US)	
* 58	A-3276-492-A	MAIN BOARD, COMPLETE(Canadian)	
59	3-369-039-01	KNOB (FUNC)	
* 60	1-651-478-11	POWER BOARD	
61	3-910-090-01	TERMINAL (-), BATTERY	
62	3-910-087-01	TERMINAL (+), BATTERY	
63	3-910-091-01	TERMINAL, ANTENNA	
64	3-910-115-01	KNOB (VOL)	
65	3-910-097-01	KNOB (TONE)	
66	X-3366-819-1	HANDLE ASSY (US:Made in MALAYSIA, Canadian)	

Ref. No.	Part No.	Description	Remark
67	3-910-100-01	WINDOW, TUNING	
68	3-386-979-01	TERMINAL (+-), BATTERY	
* 69	A-3269-062-A	TUNER BOARD, COMPLETE	
70	3-910-101-01	DIAL, TUNING	
71	3-912-776-01	SHEET, TUNING (US:Made in MALAYSIA, Canadian)	
71	3-912-803-01	SHEET, TUNING(US:Made in Indonesia)	
72	1-533-217-31	HOLDER, FUSE	
73	3-910-122-01	CABINET (REAR)(US:Made in MALAYSIA)	
73	3-910-122-61	CABINET (REAR)(Canadian)	
73	3-911-158-01	CABINET (REAR)(US:Made in Indonesia)	
74	3-381-441-XX	CUSION, STOPPER	
75	3-914-631-01	PLATE (A), SHIELD(US)	
75	3-914-632-01	PAPER (A), SHIELD(US:Made in MALAYSIA)	
75	3-914-966-01	PLATE (B), SHIELD(US:Made in Indonesia)	
⚠F902	1-576-107-11	FUSE (3.15A 125V)	
IC302	8-759-820-22	IC LA4597	

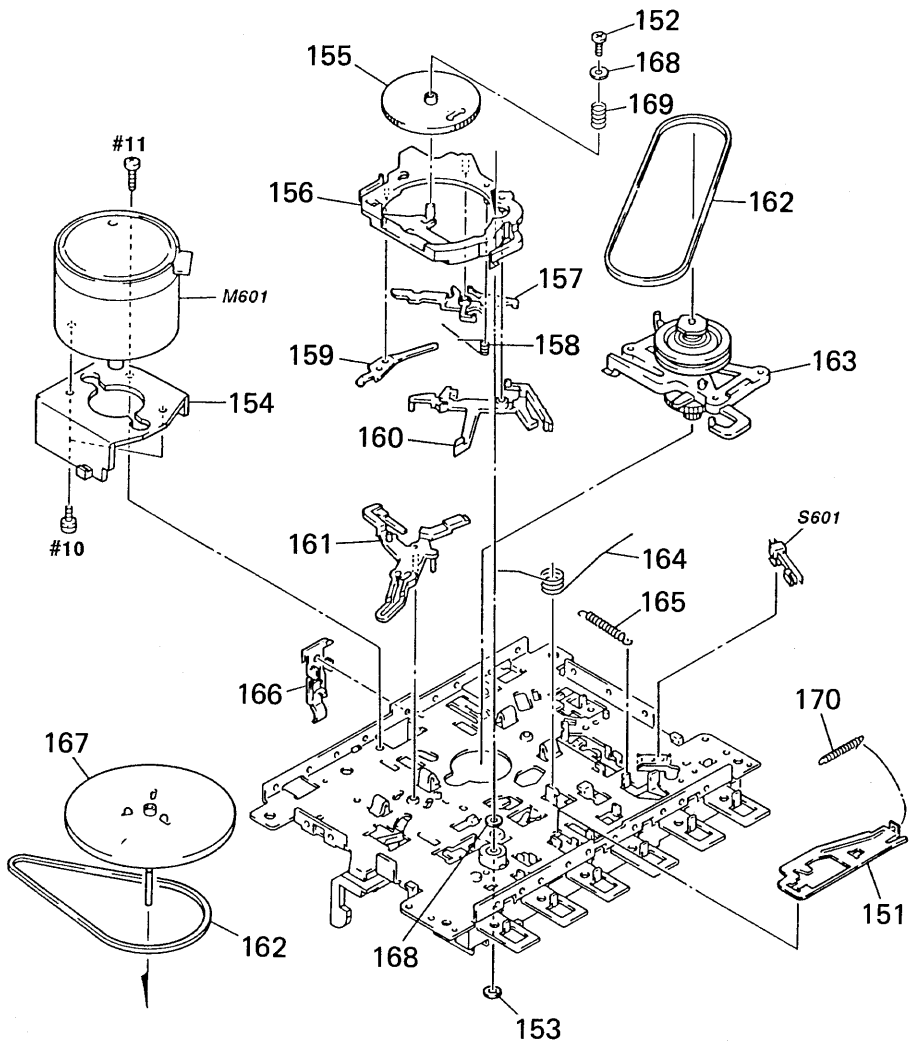
7-3. CD SECTION



Ref. No.	Part No.	Description	Remark
101	3-910-108-01	BUTTON (CD) (EJECT)	
102	3-910-094-01	CUSHION (CHUCK)	
103	3-910-112-01	PLATE, CHUCKING	
104	1-452-732-11	MAGNET	
105	3-910-113-01	HOLDER (CHUCK)	
106	3-910-123-01	LID, CD	
107	3-910-124-01	CABINET (CD) (US:Made in MALAYSIA, Canadian)	
107	3-911-164-01	CABINET (CD) (US:Made in Indonesia)	
108	3-910-089-01	SPRING, CD UP	
109	3-351-377-01	DAMPER	
110	3-910-088-01	SPRING, CD EJECT RETURN	

Ref. No.	Part No.	Description	Remark
111	3-910-116-01	COVER, CD	
112	3-910-095-11	RUBBER, VIBRATION PROOF	
113	3-910-095-01	RUBBER, VIBRATION PROOF	
114	3-910-096-01	SCREW (2.6X10), +PWH TAPPING (US:Made in MALAYSIA, Canadian)	
114	3-911-135-01	SCREW (2.6X10), (+PWH) TAPPING (US:Made in Indonesia)	
* 115	1-651-482-11	CD MOTOR BOARD	
* 116	1-651-481-11	LEAF SW BOARD	
117	3-831-441-11	CUSHION (US:Made in MALAYSIA, Canadian)	
119	1-467-655-11	PICKUP UNIT, OPTICAL	
S801	1-571-936-11	SWITCH, LEAF (DOOR OPEN)	

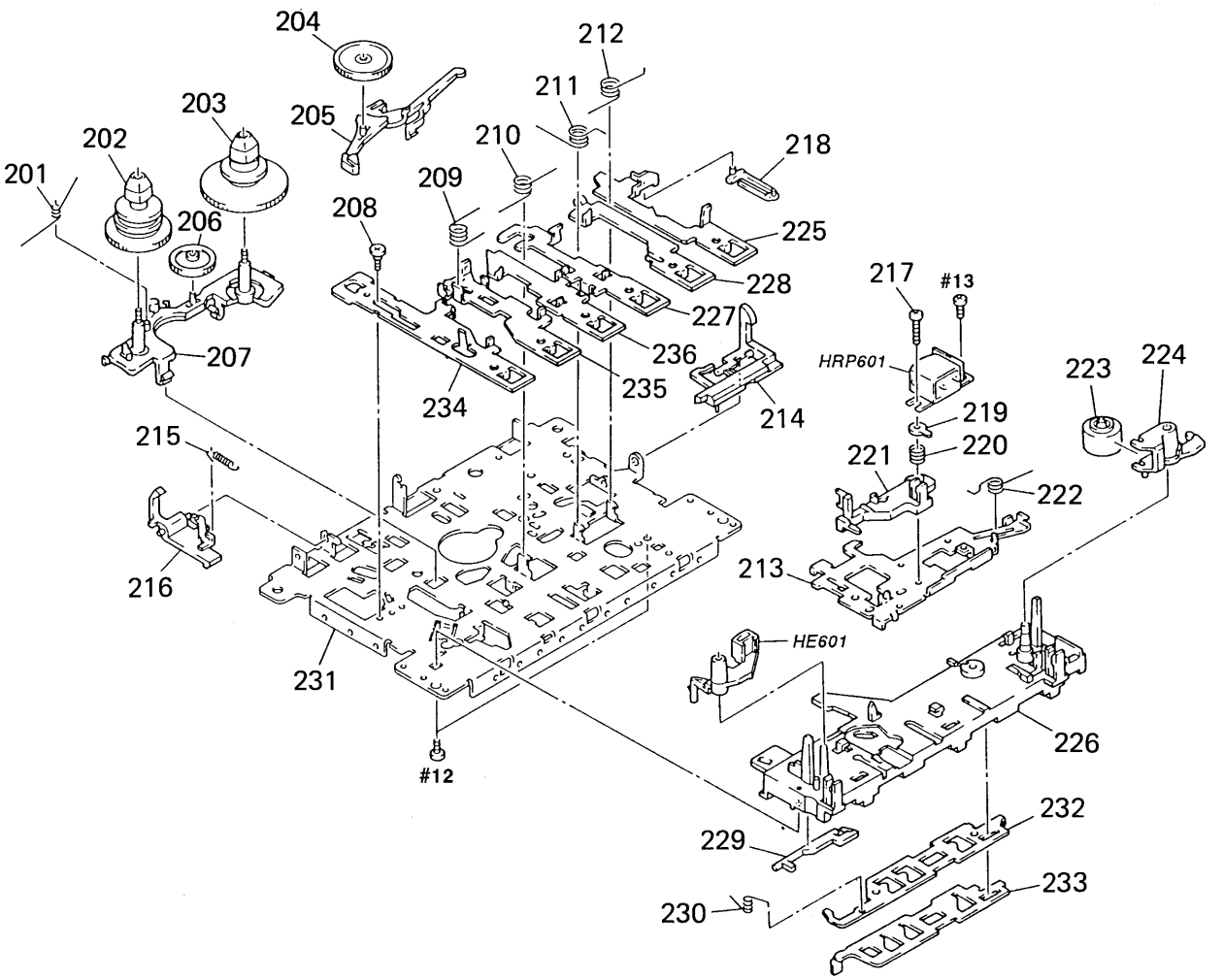
7-4. MECHANISM DECK SECTION (1)
(MF-CFD-8)



Ref. No.	Part No.	Description	Remark
151	3-379-844-01	PLATE, STOP, FR	
152	3-366-352-01	SCREW	
153	3-362-980-01	WASHER	
* 154	3-362-988-01	HOLDER, MOTOR	
155	3-362-974-01	GEAR, CAM	
156	3-362-973-01	AS (BASE)	
157	3-362-976-01	LEVER, CONTROL	
158	3-362-977-01	SPRING	
159	3-362-978-01	SPRING, PLATE	
160	3-362-975-01	LEVER, SENSOR	
161	3-387-697-01	SENSOR	

Ref. No.	Part No.	Description	Remark
162	3-362-989-01	BELT	
163	3-362-969-01	IDLER ASSY, PF	
164	3-362-970-01	SPRING	
165	3-362-971-01	SPRING	
166	3-911-189-01	CASSETTE SPRING	
167	3-387-698-01	FW ASSY	
168	3-369-961-01	WASHER	
169	3-369-962-01	SPRING, COMPRESSION	
170	3-379-843-01	SPRING	
M601	X-3366-491-1	MOTOR ASSY	
S601	1-572-304-11	SWITCH, LEAF	

7-5. MECHANISM DECK SECTION (2)
(MF-CFD-8)



Ref. No.	Part No.	Description	Remark
201	3-372-120-01	SPRING	
202	X-3363-611-1	REEL, S	
203	3-362-962-01	REEL ASSY, T	
204	3-362-960-01	PULLEY, IDLER	
205	3-362-959-01	ARM, IDLER	
206	3-362-965-01	IDLER, FF	
207	3-362-961-01	SPINDLE (BASE)	
208	3-362-958-01	SCREW	
209	3-362-954-01	SPRING	
210	3-362-955-01	SPRING	
211	3-362-956-01	SPRING	
212	3-362-957-01	SPRING	
* 213	3-362-984-01	HEAD (BASE)	
214	3-362-968-01	LEVER, EJECT	
215	3-387-699-01	SPRING	
216	3-362-966-01	INTER LOCK	
217	3-363-229-01	SCREW	
218	3-362-953-01	ARM, PAUSE	
219	3-363-230-01	LUG	
220	3-362-985-01	SPRING	
221	3-362-986-01	HOLDER, HEAD	
222	3-362-983-01	SPRING	
223	3-362-982-01	PINCH ROLLER	
224	3-362-981-01	PINCH ARM	
* 225	3-362-952-01	LEVER, PAUSE	
226	3-362-942-01	FRAME ASSY	
* 227	3-362-950-01	LEVER, FF	
* 228	3-362-951-01	LEVER, SE	
229	3-362-944-01	STOPPER, REC	
230	3-362-945-01	SPRING	
* 231	3-362-941-01	CHASSIS	
* 232	3-362-943-01	PLATE, FUNCTION	
* 233	3-362-946-01	LEVER, SW	
* 234	3-362-947-01	LEVER, REC	
* 235	3-362-948-01	LEVER, PLAY	
* 236	3-362-949-01	LEVER, REW	
HE601	1-500-031-11	HEAD, MAGNETIC (ERASE)	
HRP601	1-500-005-11	HEAD, MAGNETIC (RECORD/PLAYBACK)	

SECTION 8
ELECTRICAL PARTS LIST

CD MOTOR | LCD | LEAF SW | MAIN

NOTE :
- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms
  METAL : Metal-film resistor
  METAL OXIDE : Metal oxide-film resistor
  F : nonflammable
- Items marked " * "are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u : μ , for example :
  uA.... : μ A.... , uPA.... : μ PA....
  uPB.... : μ PB.... , uPC.... : μ PC....
  uPD.... : μ PD....
- CAPACITORS
  uF : μ F
- COILS
  uH : μ H

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

When indicating parts by reference number, please include the board.

Ref.No.	Part No.	Description	Remark
*	1-651-482-11	CD MOTOR BOARD	
		**********	
		< CONNECTOR >	
* CN707	1-580-167-11	PIN, CONNECTOR (PC BOARD) 6P	
		< SWITCH >	
S701	1-571-936-11	SWITCH, LEAF(CD DET)	
**********			
*	1-651-479-11	LCD BOARD	
		*********	
		< CONNECTOR >	
CNP802	1-565-937-11	SOCKET, CONNECTOR 13P	
* CNP802	1-568-856-11	SOCKET, CONNECTOR 13P	
		< LIQUID CRYSTAL DISPLAY >	
LCD801	1-810-442-11	DISPLAY PANEL, LIQUID CRYSTAL	
		< SWITCH >	
S802	1-554-937-11	SWITCH, KEY BOARD(PLAY/PAUSE)	
S803	1-554-937-11	SWITCH, KEY BOARD(STOP)	
S804	1-554-937-11	SWITCH, KEY BOARD(⏮AMS/SEARCH)	
S805	1-554-937-11	SWITCH, KEY BOARD(⏭AMS/SEARCH)	
**********			
*	1-651-481-11	LEAF SW BOARD	
		**********	
		< CONNECTOR >	
* CNP801	1-580-154-11	PIN, CONNECTOR (PC BOARD) 2P	
		< SWITCH >	
S801	1-571-936-11	SWITCH, LEAF(DOOR OPEN)	
**********			

Ref.No.	Part No.	Description	Remark
*	A-3276-271-A	MAIN BOARD, COMPLETE(US)	
*	A-3276-492-A	MAIN BOARD, COMPLETE(Canadian)	
		**********	
	7-682-547-09	SCREW +BVTT 3X6 (S)	
	7-685-647-79	SCREW +BVTP 3X10 TYPE2 N-S	
		< CAPACITOR >	
C101	1-124-903-11	ELECT 1uF 20% 50V	
C102	1-162-282-31	CERAMIC 100PF 10% 50V	
C103	1-124-126-00	ELECT 47uF 20% 10V	
C104	1-162-844-11	CERAMIC 0.027uF 10% 16V	
C105	1-124-903-11	ELECT 1uF 20% 50V	
C106	1-162-294-31	CERAMIC 0.001uF 10% 50V	
C107	1-161-043-00	CERAMIC 0.0022uF 10% 50V	
C109	1-161-375-00	CERAMIC 0.0022uF 20% 50V	
C110	1-162-842-11	CERAMIC 0.018uF 10% 16V	
C111	1-124-927-11	ELECT 4.7uF 20% 100V	
C112	1-162-290-31	CERAMIC 470PF 10% 50V	
C113	1-136-165-00	FILM 0.1uF 5% 50V	
C114	1-124-473-11	ELECT 1000uF 20% 10V	
C116	1-124-126-00	ELECT 47uF 20% 10V	
C117	1-162-282-31	CERAMIC 100PF 10% 50V	
C118	1-162-282-31	CERAMIC 100PF 10% 50V	
C122	1-124-443-00	ELECT 100uF 20% 10V	
C201	1-124-903-11	ELECT 1uF 20% 50V	
C202	1-162-282-31	CERAMIC 100PF 10% 50V	
C203	1-124-126-00	ELECT 47uF 20% 10V	
C204	1-162-844-11	CERAMIC 0.027uF 10% 16V	
C205	1-124-903-11	ELECT 1uF 20% 50V	
C206	1-162-294-31	CERAMIC 0.001uF 10% 50V	
C207	1-161-043-00	CERAMIC 0.0022uF 10% 50V	
C209	1-161-375-00	CERAMIC 0.0022uF 20% 50V	
C210	1-162-842-11	CERAMIC 0.018uF 10% 16V	
C211	1-124-927-11	ELECT 4.7uF 20% 100V	
C212	1-162-290-31	CERAMIC 470PF 10% 50V	
C213	1-136-165-00	FILM 0.1uF 5% 50V	

Ref. No.	Part No.	Description		Remark	
C214	1-124-473-11	ELECT	1000uF	20%	10V
C216	1-124-126-00	ELECT	47uF	20%	10V
C217	1-162-282-31	CERAMIC	100PF	10%	50V
C218	1-162-282-31	CERAMIC	100PF	10%	50V
C222	1-124-443-00	ELECT	100uF	20%	10V
C301	1-126-233-11	ELECT	22uF	20%	50V
C302	1-126-962-11	ELECT	3.3uF	20%	50V
C303	1-124-472-11	ELECT	470uF	20%	10V
C304	1-161-379-00	CERAMIC	0.01uF	20%	25V
C305	1-161-379-00	CERAMIC	0.01uF	20%	25V
C313	1-130-481-00	MYLAR	0.0068uF	5%	50V
C314	1-124-443-00	ELECT	100uF	20%	10V
C315	1-161-041-00	CERAMIC	0.0015uF	10%	50V
C317	1-124-120-11	ELECT	220uF	20%	25V
C318	1-126-937-11	ELECT	4700uF	20%	16V
C321	1-161-379-00	CERAMIC	0.01uF	20%	25V
C322	1-161-379-00	CERAMIC	0.01uF	20%	25V
C324	1-126-176-11	ELECT	220uF	20%	10V
C325	1-161-379-00	CERAMIC	0.01uF	20%	25V
C326	1-161-379-00	CERAMIC	0.01uF	20%	25V
C328	1-126-176-11	ELECT	220uF	20%	10V
C332	1-124-907-11	ELECT	10uF	20%	50V
C333	1-126-233-11	ELECT	22uF	20%	50V
C335	1-162-282-31	CERAMIC	100PF	10%	50V
C336	1-124-902-00	ELECT	0.47uF	20%	50V
C701	1-161-050-00	CERAMIC	0.0082uF	10%	16V
C702	1-136-165-00	FILM	0.1uF	5%	50V
C703	1-136-165-00	FILM	0.1uF	5%	50V
C704	1-136-165-00	FILM	0.1uF	5%	50V
C705	1-131-375-00	TANTALUM	4.7uF	10%	10V
C706	1-130-489-00	MYLAR	0.033uF	5%	50V
C707	1-130-486-00	MYLAR	0.018uF	10%	50V
C708	1-162-215-31	CERAMIC	47PF	5%	50V
C709	1-126-962-11	ELECT	3.3uF	20%	50V
C710	1-130-493-00	MYLAR	0.068uF	5%	50V
C711	1-162-215-31	CERAMIC	47PF	5%	50V
C713	1-130-489-00	MYLAR	0.033uF	5%	50V
C714	1-161-379-00	CERAMIC	0.01uF	20%	25V
C715	1-130-489-00	MYLAR	0.033uF	5%	50V
C716	1-130-483-00	MYLAR	0.01uF	5%	50V
C718	1-124-907-11	ELECT	10uF	20%	50V
C719	1-130-483-00	MYLAR	0.01uF	5%	50V
C720	1-130-483-00	MYLAR	0.01uF	5%	50V
C721	1-130-491-00	MYLAR	0.047uF	5%	50V
C722	1-161-494-00	CERAMIC	0.022uF		25V
C723	1-136-165-00	FILM	0.1uF	5%	50V
C724	1-124-126-00	ELECT	47uF	20%	10V
C727	1-162-294-31	CERAMIC	0.001uF	10%	50V
C728	1-136-165-00	FILM	0.1uF	5%	50V

Ref. No.	Part No.	Description		Remark	
C729	1-126-176-11	ELECT	220uF	20%	10V
C730	1-126-176-11	ELECT	220uF	20%	10V
C731	1-162-290-31	CERAMIC	470PF	10%	50V
C731	1-162-294-31	CERAMIC	0.001uF	10%	50V
C732	1-130-484-00	MYLAR	0.012uF	5%	50V
C733	1-162-294-31	CERAMIC	0.001uF	10%	50V
C734	1-102-118-00	MYLAR	0.0012uF	10%	50V
C735	1-162-215-31	CERAMIC	47PF	5%	50V
C736	1-162-290-31	CERAMIC	470PF	10%	50V
C738	1-162-194-31	CERAMIC	3.9PF	10%	50V
C739	1-124-126-00	ELECT	47uF	20%	10V
C740	1-162-290-31	CERAMIC	470PF	10%	50V
C741	1-124-126-00	ELECT	47uF	20%	10V
C742	1-136-173-00	FILM	0.47uF	5%	50V
C743	1-161-379-00	CERAMIC	0.01uF	20%	25V
C744	1-162-286-31	CERAMIC	220PF	10%	50V
C745	1-136-169-00	FILM	0.22uF	5%	50V
C746	1-161-379-00	CERAMIC	0.01uF	20%	25V
C747	1-161-329-00	CERAMIC	0.0068uF	20%	16V
C748	1-162-294-31	CERAMIC	0.001uF	10%	50V
C749	1-162-282-31	CERAMIC	100PF	10%	50V
C750	1-161-379-00	CERAMIC	0.01uF	20%	25V
C751	1-161-379-00	CERAMIC	0.01uF	20%	25V
C752	1-102-942-00	CERAMIC	5.0PF	+-0.5PF	50V
C753	1-102-942-00	CERAMIC	5.0PF	+-0.5PF	50V
C754	1-124-126-00	ELECT	47uF	20%	10V
C755	1-162-294-31	CERAMIC	0.001uF	10%	50V
C756	1-161-379-00	CERAMIC	0.01uF	20%	25V
C757	1-161-379-00	CERAMIC	0.01uF	20%	25V
C758	1-124-907-11	ELECT	10uF	20%	50V
C760	1-162-288-31	CERAMIC	330PF	10%	50V
C761	1-162-217-31	CERAMIC	56PF	5%	50V
C762	1-162-217-31	CERAMIC	56PF	5%	50V
C763	1-162-293-31	CERAMIC	820PF	10%	50V
C764	1-124-927-11	ELECT	4.7uF	20%	100V
C765	1-162-290-31	CERAMIC	470PF	10%	50V
C766	1-162-282-31	CERAMIC	100PF	10%	50V
C770	1-162-288-31	CERAMIC	330PF	10%	50V
C771	1-162-217-31	CERAMIC	56PF	5%	50V
C772	1-162-217-31	CERAMIC	56PF	5%	50V
C773	1-162-293-31	CERAMIC	820PF	10%	50V
C774	1-124-927-11	ELECT	4.7uF	20%	100V
C775	1-162-290-31	CERAMIC	470PF	10%	50V
C776	1-162-282-31	CERAMIC	100PF	10%	50V
C780	1-124-126-00	ELECT	47uF	20%	10V
C781	1-126-176-11	ELECT	220uF	20%	10V
C782	1-161-379-00	CERAMIC	0.01uF	20%	25V
C783	1-161-379-00	CERAMIC	0.01uF	20%	25V
C790	1-124-902-00	ELECT	0.47uF	20%	50V

MAIN

Ref. No.	Part No.	Description			Remark
C791	1-162-294-31	CERAMIC	0.001uF	10%	50V
C800	1-161-379-00	CERAMIC	0.01uF	20%	25V
C801	1-124-902-00	ELECT	0.47uF	20%	50V
C802	1-130-483-00	MYLAR	0.01uF	5%	50V
C803	1-104-792-51	ELECT	33uF	20%	16V
C804	1-124-907-11	ELECT	10uF	20%	50V
		< CONNECTOR >			
* CNP301	1-580-154-11	PIN, CONNECTOR (PC BOARD) 2P			
CNP302	1-506-987-11	PIN, CONNECTOR (PC BOARD) 5P			
CNP303	1-506-986-11	PIN, CONNECTOR (PC BOARD) 4P			
CNP306	1-506-986-11	PIN, CONNECTOR (PC BOARD) 4P			
CNP307	1-506-986-11	PIN, CONNECTOR (PC BOARD) 4P			
* CNP701	1-580-158-11	PIN, CONNECTOR (PC BOARD) 6P			
* CNP702	1-580-158-11	PIN, CONNECTOR (PC BOARD) 6P			
* CNP703	1-580-158-11	PIN, CONNECTOR (PC BOARD) 6P			
* CNP704	1-568-832-11	SOCKET, CONNECTOR 13P			
* CNP704	1-569-930-11	SOCKET, CONNECTOR 13P			
* CNP705	1-580-154-11	PIN, CONNECTOR (PC BOARD) 2P			
		< DIODE >			
D301	8-719-901-33	DIODE	1SS133		
D302	8-719-901-33	DIODE	1SS133		
D303	8-719-901-33	DIODE	1SS133		
D305	8-719-109-97	DIODE	RD6.8ES-B2		
D306	8-719-938-69	LED	GL3PR8(OPR/BATT)		
D307	8-719-109-89	DIODE	RD5.6ESB2		
D308	8-719-901-33	DIODE	1SS133		
D309	8-719-109-69	DIODE	RD3.6ES-B2		
D310	8-719-901-33	DIODE	1SS133		
		< IC >			
IC301	8-759-942-24	IC	BA3312N		
IC302	8-759-820-22	IC	LA4597		
IC701	8-752-070-23	IC	CXA1962Q		
IC702	8-752-361-16	IC	CXD2518Q		
IC703	8-759-518-59	IC	BA6296FP		
IC705	8-759-909-71	IC	BA4558F		
IC801	8-752-853-78	IC	CXP5084H-670Q(US:Made in Indonesia)		
IC801	8-752-854-16	IC	CXP5084H-674Q (US:Made in MALAYSIA,Canadian)		
IC802	8-759-256-72	IC	PST994D-T		
		< JACK >			
J302	1-566-891-11	JACK(PHONE)			
		< CABLE HOLDER >			
* KH708	1-573-287-11	HOLDER, CABLE 2P			
* KH709	1-573-287-11	HOLDER, CABLE 2P			
		< COIL >			
L101	1-410-509-11	INDUCTOR	10uH		
L201	1-410-509-11	INDUCTOR	10uH		
L301	1-410-509-11	INDUCTOR	10uH		
L702	1-410-513-11	INDUCTOR	22uH		
L703	1-410-513-11	INDUCTOR	22uH		
L707	1-410-397-21	FERRITE BEAD INDUCTOR			
L708	1-410-397-21	FERRITE BEAD INDUCTOR			
L709	1-410-397-21	FERRITE BEAD INDUCTOR			
L710	1-410-397-21	FERRITE BEAD INDUCTOR			
L711	1-410-397-21	FERRITE BEAD INDUCTOR			
L712	1-410-513-11	INDUCTOR	22uH		
L713	1-410-513-11	INDUCTOR	22uH		
L714	1-410-397-21	FERRITE BEAD INDUCTOR			
L715	1-410-509-11	INDUCTOR	10uH		
L716	1-414-142-11	INDUCTOR	1uH		
L760	1-410-397-21	FERRITE BEAD INDUCTOR			
L770	1-410-397-21	FERRITE BEAD INDUCTOR			
L780	1-410-397-21	FERRITE BEAD INDUCTOR			
		< TRANSISTOR >			
Q101	8-729-900-74	TRANSISTOR	DTC143TS		
Q201	8-729-900-74	TRANSISTOR	DTC143TS		
Q301	8-729-194-57	TRANSISTOR	2SC945-P		
Q302	8-729-921-65	TRANSISTOR	DTC143ES		
Q303	8-729-021-82	TRANSISTOR	2SD2396		
Q304	8-729-011-92	TRANSISTOR	2SC2001TP-K1K2		
Q305	8-729-921-65	TRANSISTOR	DTC143ES		
Q306	8-729-119-76	TRANSISTOR	2SA1175-HFE		
Q307	8-729-921-65	TRANSISTOR	DTC143ES		
Q308	8-729-900-74	TRANSISTOR	DTC143TS		
Q701	8-729-801-84	TRANSISTOR	2SB1013-4		
Q702	8-729-900-85	TRANSISTOR	DTC144WS		
Q703	8-729-900-74	TRANSISTOR	DTC143TS		
Q705	8-729-902-80	TRANSISTOR	DTA114YS		
Q760	8-729-900-74	TRANSISTOR	DTC143TS		
Q770	8-729-900-74	TRANSISTOR	DTC143TS		
		< RESISTOR >			
R101	1-249-417-11	CARBON	1K	5%	1/4W
R102	1-249-404-00	CARBON	82	5%	1/4W
R103	1-249-425-11	CARBON	4.7K	5%	1/4W
R104	1-247-854-11	CARBON	9.1K	5%	1/4W
R105	1-247-887-00	CARBON	220K	5%	1/4W
R107	1-249-425-11	CARBON	4.7K	5%	1/4W
R108	1-249-431-11	CARBON	15K	5%	1/4W

Ref. No.	Part No.	Description			Remark
R109	1-249-404-00	CARBON	82	5%	1/4W
R110	1-249-421-11	CARBON	2.2K	5%	1/4W
R111	1-249-441-11	CARBON	100K	5%	1/4W
R112	1-249-417-11	CARBON	1K	5%	1/4W
R115	1-249-399-11	CARBON	33	5%	1/4W
R116	1-249-429-11	CARBON	10K	5%	1/4W
R117	1-249-423-11	CARBON	3.3K	5%	1/4W
R118	1-249-406-11	CARBON	120	5%	1/4W
R201	1-249-417-11	CARBON	1K	5%	1/4W
R202	1-249-404-00	CARBON	82	5%	1/4W
R203	1-249-425-11	CARBON	4.7K	5%	1/4W
R204	1-247-854-11	CARBON	9.1K	5%	1/4W
R205	1-247-887-00	CARBON	220K	5%	1/4W
R207	1-249-425-11	CARBON	4.7K	5%	1/4W
R208	1-249-431-11	CARBON	15K	5%	1/4W
R209	1-249-404-00	CARBON	82	5%	1/4W
R210	1-249-421-11	CARBON	2.2K	5%	1/4W
R211	1-249-441-11	CARBON	100K	5%	1/4W
R212	1-249-417-11	CARBON	1K	5%	1/4W
R215	1-249-399-11	CARBON	33	5%	1/4W
R216	1-249-429-11	CARBON	10K	5%	1/4W
R217	1-249-423-11	CARBON	3.3K	5%	1/4W
R218	1-249-406-11	CARBON	120	5%	1/4W
R301	1-247-903-00	CARBON	1M	5%	1/4W
R302	1-247-807-31	CARBON	100	5%	1/4W
R306	1-249-406-11	CARBON	120	5%	1/4W
R307	1-249-434-11	CARBON	27K	5%	1/4W
R308	1-249-389-11	CARBON	4.7	5%	1/4W
R309	1-249-409-11	CARBON	220	5%	1/4W
R312	1-249-417-11	CARBON	1K	5%	1/4W
R313	1-249-420-11	CARBON	1.8K	5%	1/4W
R314	1-247-828-11	CARBON	750	5%	1/4W
R315	1-247-816-11	CARBON	240	5%	1/4W
R316	1-249-441-11	CARBON	100K	5%	1/4W
R317	1-249-411-11	CARBON	330	5%	1/4W
R318	1-249-417-11	CARBON	1K	5%	1/4W
R319	1-247-807-31	CARBON	100	5%	1/4W
R320	1-249-393-11	CARBON	10	5%	1/4W
R321	1-249-437-11	CARBON	47K	5%	1/4W
R332	1-249-425-11	CARBON	4.7K	5%	1/4W
R333	1-249-425-11	CARBON	4.7K	5%	1/4W
R335	1-249-429-11	CARBON	10K	5%	1/4W
R700	1-249-425-11	CARBON	4.7K	5%	1/4W
R701	1-249-441-11	CARBON	100K	5%	1/4W
R702	1-247-896-11	CARBON	510K	5%	1/4W
R703	1-249-438-11	CARBON	56K	5%	1/4W
R704	1-249-441-11	CARBON	100K	5%	1/4W
R705	1-249-437-11	CARBON	47K	5%	1/4W
R706	1-247-883-00	CARBON	150K	5%	1/4W
R707	1-249-432-11	CARBON	18K	5%	1/4W
R708	1-247-883-00	CARBON	150K	5%	1/4W
R709	1-249-436-11	CARBON	39K	5%	1/4W
R710	1-249-429-11	CARBON	10K	5%	1/4W
R711	1-249-417-11	CARBON	1K	5%	1/4W
R712	1-249-441-11	CARBON	100K	5%	1/4W
R713	1-247-883-00	CARBON	150K	5%	1/4W
R714	1-247-883-00	CARBON	150K	5%	1/4W
R715	1-247-901-11	CARBON	820K	5%	1/4W
R718	1-247-899-11	CARBON	680K	5%	1/4W
R720	1-249-441-11	CARBON	100K	5%	1/4W
R721	1-247-895-00	CARBON	470K	5%	1/4W
R722	1-247-903-00	CARBON	1M	5%	1/4W
R723	1-249-417-11	CARBON	1K	5%	1/4W
R727	1-249-417-11	CARBON	1K	5%	1/4W
R728	1-249-429-11	CARBON	10K	5%	1/4W
R729	1-249-429-11	CARBON	10K	5%	1/4W
R730	1-249-435-11	CARBON	33K	5%	1/4W
R731	1-249-433-11	CARBON	22K	5%	1/4W
R732	1-249-429-11	CARBON	10K	5%	1/4W
R733	1-249-435-11	CARBON	33K	5%	1/4W
R734	1-249-441-11	CARBON	100K	5%	1/4W
R735	1-249-426-11	CARBON	5.6K	5%	1/4W
R740	1-249-423-11	CARBON	3.3K	5%	1/4W
R741	1-249-417-11	CARBON	1K	5%	1/4W
R742	1-249-429-11	CARBON	10K	5%	1/4W
R743	1-247-903-00	CARBON	1M	5%	1/4W
R744	1-247-887-00	CARBON	220K	5%	1/4W
R745	1-247-856-00	CARBON	11K	5%	1/4W
R746	1-249-437-11	CARBON	47K	5%	1/4W
R747	1-249-429-11	CARBON	10K	5%	1/4W
R750	1-249-417-11	CARBON	1K	5%	1/4W
R751	1-249-389-11	CARBON	4.7	5%	1/4W
R752	1-249-417-11	CARBON	1K	5%	1/4W
R753	1-249-429-11	CARBON	10K	5%	1/4W
R760	1-249-429-11	CARBON	10K	5%	1/4W
R761	1-249-429-11	CARBON	10K	5%	1/4W
R762	1-249-437-11	CARBON	47K	5%	1/4W
R763	1-249-437-11	CARBON	47K	5%	1/4W
R764	1-249-434-11	CARBON	27K	5%	1/4W
R765	1-249-434-11	CARBON	27K	5%	1/4W
R766	1-249-417-11	CARBON	1K	5%	1/4W
R770	1-249-429-11	CARBON	10K	5%	1/4W
R771	1-249-429-11	CARBON	10K	5%	1/4W
R772	1-249-437-11	CARBON	47K	5%	1/4W
R773	1-249-437-11	CARBON	47K	5%	1/4W
R774	1-249-434-11	CARBON	27K	5%	1/4W
R775	1-249-434-11	CARBON	27K	5%	1/4W
R776	1-249-417-11	CARBON	1K	5%	1/4W

MAIN POWER TUNER

Ref. No.	Part No.	Description			Remark
R780	1-247-807-11	CARBON	100	5%	1/4W
R781	1-249-429-11	CARBON	10K	5%	1/4W
R782	1-249-431-11	CARBON	15K	5%	1/4W
R790	1-249-393-11	CARBON	10	5%	1/4W
R801	1-249-435-11	CARBON	33K	5%	1/4W
R802	1-249-435-11	CARBON	33K	5%	1/4W
R803	1-249-435-11	CARBON	33K	5%	1/4W
R806	1-249-437-11	CARBON	47K	5%	1/4W
R807	1-249-429-11	CARBON	10K	5%	1/4W
R808	1-249-429-11	CARBON	10K	5%	1/4W
R809	1-249-429-11	CARBON	10K	5%	1/4W
R810	1-249-429-11	CARBON	10K	5%	1/4W
R811	1-249-429-11	CARBON	10K	5%	1/4W
R812	1-249-429-11	CARBON	10K	5%	1/4W
R813	1-249-429-11	CARBON	10K	5%	1/4W
R814	1-249-429-11	CARBON	10K	5%	1/4W
R815	1-249-421-11	CARBON	2.2K	5%	1/4W
		< VARIABLE RESISTOR >			
RV301	1-223-403-11	RES, VAR, CARBON 20K/20K(VOLUME)			
RV302	1-241-745-11	RES, VAR, CARBON 20K/20K(TONE)			
RV701	1-238-017-11	RES, ADJ, CARBON 22K(F-GAIN, CD)			
RV702	1-238-017-11	RES, ADJ, CARBON 22K(F-BIAS, CD)			
		< SWITCH >			
S301	1-572-627-11	SWITCH, SLIDE(RECORD/PLAYBACK)			
S302	1-572-236-11	SWITCH, LEVER SLIDE (FUNCTION CD/RADIO(FM/AM)/TAPE)			
		< TRANSFORMER >			
T301	1-433-268-00	TRANSFORMER, BIAS OSCILLATOR			
		< CRYSTAL >			
X701	1-760-217-11	VIBRATOR, CERAMIC(32.89MHz)			
**********					
*	1-651-478-11	POWER BOARD			
		**********			
	1-533-217-31	HOLDER, FUSE			
		< CAPACITOR >			
C901	1-101-005-00	CERAMIC	22000PF		50V
C902	1-101-005-00	CERAMIC	22000PF		50V
C903	1-101-005-00	CERAMIC	22000PF		50V
C904	1-101-005-00	CERAMIC	22000PF		50V
C905	1-136-169-00	FILM	0.22uF	5%	50V

Ref. No.	Part No.	Description	Remark
		< JACK >	
⚠CNJ901	1-540-009-11	INLET, AC	
		< DIODE >	
D901	8-719-031-53	DIODE LT2A02	
D902	8-719-031-53	DIODE LT2A02	
D903	8-719-031-53	DIODE LT2A02	
D904	8-719-031-53	DIODE LT2A02	
		< FUSE >	
⚠F902	1-576-107-11	FUSE (3.15A 125V)	
		< CABLE HOLDER >	
* KH901	1-573-287-11	HOLDER, CABLE 2P	
		< LINE FILTER >	
⚠LF901	1-424-150-11	TRANSFORMER, LINE FILTER	
		< TRANSFORMER >	
⚠T901	1-426-631-11	TRANSFORMER, POWER	
**********			
*	A-3269-062-A	TUNER BOARD, COMPLETE	
		**********	
		< FILTER >	
BPF1	1-236-711-21	FILTER, BAND PASS	
		< CAPACITOR >	
C2	1-161-379-00	CERAMIC 0.01uF	20% 25V
C3	1-124-443-00	ELECT 100uF	20% 10V
C4	1-162-190-31	CERAMIC 1.8PF	20% 50V
C5	1-162-206-31	CERAMIC 20PF	5% 50V
C6	1-102-959-00	CERAMIC 22PF	5% 50V
C7	1-162-197-31	CERAMIC 6.8PF	10% 50V
C8	1-162-193-31	CERAMIC 3.3PF	10% 50V
C9	1-161-379-00	CERAMIC 0.01uF	20% 25V
C10	1-161-379-00	CERAMIC 0.01uF	20% 25V
C11	1-124-927-11	ELECT 4.7uF	20% 100V
C12	1-124-903-11	ELECT 1uF	20% 50V
C13	1-124-126-00	ELECT 47uF	20% 10V
C14	1-124-443-00	ELECT 100uF	20% 10V
C15	1-161-379-00	CERAMIC 0.01uF	20% 25V
C16	1-124-925-11	ELECT 2.2uF	20% 100V

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	Description			Remark
C17	1-124-443-00	ELECT	100uF	20%	10V
C18	1-162-844-11	CERAMIC	0.027uF	10%	16V
C19	1-162-844-11	CERAMIC	0.027uF	10%	16V
C20	1-124-902-00	ELECT	0.47uF	20%	50V
C21	1-124-902-00	ELECT	0.47uF	20%	50V
C22	1-124-903-11	ELECT	1uF	20%	50V
C23	1-124-902-00	ELECT	0.47uF	20%	50V
C24	1-124-927-11	ELECT	4.7uF	20%	100V
C31	1-162-294-31	CERAMIC	0.001uF	10%	50V
C32	1-162-294-31	CERAMIC	0.001uF	10%	50V
		< FILTER >			
CF1	1-760-237-11	FILTER, CERAMIC			
CF3	1-760-237-11	FILTER, CERAMIC			
		< COMPOSITION CIRCUIT BLOCK >			
CFT1	1-239-724-11	ENCAPSULATED COMPONENT			
		< CONNECTOR >			
CN1	1-506-987-11	PIN, CONNECTOR (PC BOARD) 5P			
		< VARIABLE CAPACITOR >			
CT1-4 CV1-4	1-151-696-11	CAP, VAR			
		< IC >			
IC1	8-752-050-20	IC CXA1238S			
		< COIL >			
* L1	1-422-181-11	COIL, AIR-CORE			
L2	1-422-230-11	COIL, AIR-CORE			
L3	1-402-577-11	ANTENNA, FERRITE-ROD (MW)			
L4	1-406-464-41	COIL (OSC)			
		< TRANSISTOR >			
Q1	8-729-904-36	TRANSISTOR DTC114YS			
		< RESISTOR >			
R2	1-249-421-11	CARBON	2.2K	5%	1/4W
R3	1-249-441-11	CARBON	100K	5%	1/4W
R5	1-249-429-11	CARBON	10K	5%	1/4W
R7	1-249-404-00	CARBON	82	5%	1/4W
R8	1-249-427-11	CARBON	6.8K	5%	1/4W
R9	1-249-427-11	CARBON	6.8K	5%	1/4W
R11	1-247-887-00	CARBON	220K	5%	1/4W
R12	1-249-421-11	CARBON	2.2K	5%	1/4W
R13	1-247-807-31	CARBON	100	5%	1/4W
R14	1-249-411-11	CARBON	330	5%	1/4W

Ref. No.	Part No.	Description			Remark
R15	1-247-887-00	CARBON	220K	5%	1/4W
R16	1-249-425-11	CARBON	4.7K	5%	1/4W
		< VARIABLE RESISTOR >			
RV1	1-238-017-11	RES, ADJ, CARBON 22K(76kHz)			

****

MISCELLANEOUS
****

6	1-504-505-11	SPEAKER (10CM) (US:Made in MALAYSIA, Canadian)
6	1-504-548-11	SPEAKER (10CM) (US:Made in Indonesia)
9	1-765-085-11	WIRE, PARALLEL (FFC) (13 CORE)
13	1-501-388-11	ANTENNA, TELESCOPIC
104	1-452-732-11	MAGNET
119	1-467-655-11	PICKUP UNIT, OPTICAL
HE601	1-500-031-11	HEAD, MAGNETIC (ERASE)
HRP601	1-500-005-11	HEAD, MAGNETIC(RECORD/PLAYBACK)
M601	X-3366-491-1	MOTOR ASSY
S601	1-572-304-11	SWITCH, LEAF

****

ACCESSORIES & PACKING MATERIALS
****

⚠	1-690-952-21	CORD, POWER
	3-758-224-21	MANUAL, INSTRUCTION(ENGLISH) (US:Made in MALAYSIA, Canadian)
	3-758-224-31	MANUAL, INSTRUCTION(FRENCH) (Canadian)
	3-758-224-81	MANUAL, INSTRUCTION(ENGLISH) (US:Made in Indonesia)
*	3-910-853-01	CUSHION (L) (US:Made in MALAYSIA, Canadian)
*	3-910-853-11	CUSHION (L) (US:Made in Indonesia)
*	3-910-854-01	CUSHION (R) (US:Made in MALAYSIA, Canadian)
*	3-910-854-11	CUSHION (R) (US:Made in Indonesia)
*	3-910-855-01	INDIVIDUAL CARTON(US:Made in MALAYSIA)
*	3-911-728-01	INDIVIDUAL CARTON(US:Made in Indonesia)
*	3-912-224-01	INDIVIDUAL CARTON(Canadian)

****

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	Description	Remark
		**********	
		HARDWARE LIST	
		**********	
#1	7-685-647-79	SCREW +BVTP 3X10 TYPE2 N-S	
#2	7-685-134-19	SCREW +BTP 2.6X8 TYPE2 N-S	
#3	7-685-649-79	SCREW +BVTP 3X14 TYPE2 N-S	
#4	7-682-548-04	SCREW +B 3X8	
#5	7-685-648-79	SCREW +BVTP 3X12 TYPE2 N-S	
#6	7-621-773-95	SCREW +B 2.6X6	
#7	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S	
#8	7-685-533-19	SCREW +BTP 2.6X6 TYPE2 N-S	
#9	7-685-903-31	SCREW +PTPWH 3X10 (TYPE2)	(US:Made in MALAYSIA, Canadian)
#9	7-687-247-21	SCREW, TOTSU PTPWH 3X10, TYPE2	(US:Made in Indonesia)
#10	7-628-254-05	SCREW +PS 2.6X5	
#11	7-685-861-01	SCREW +BVTT 2.6X5 (S)	
#12	7-685-104-19	SCREW +P 2X6 TYPE2 NON-SLIT	
#13	7-621-255-25	SCREW +PTT 2X4 (S)	
#14	7-682-547-09	SCREW +BVTT 3X6 (S)	(US:Made in Indonesia)
#15	7-621-255-20	SCREW +PTT 2X4 (S)	

9-959-414-11

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General Audio Group

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CFD-8

SONY
SERVICE MANUAL

US Model
Canadian Model

SUPPLEMENT-1

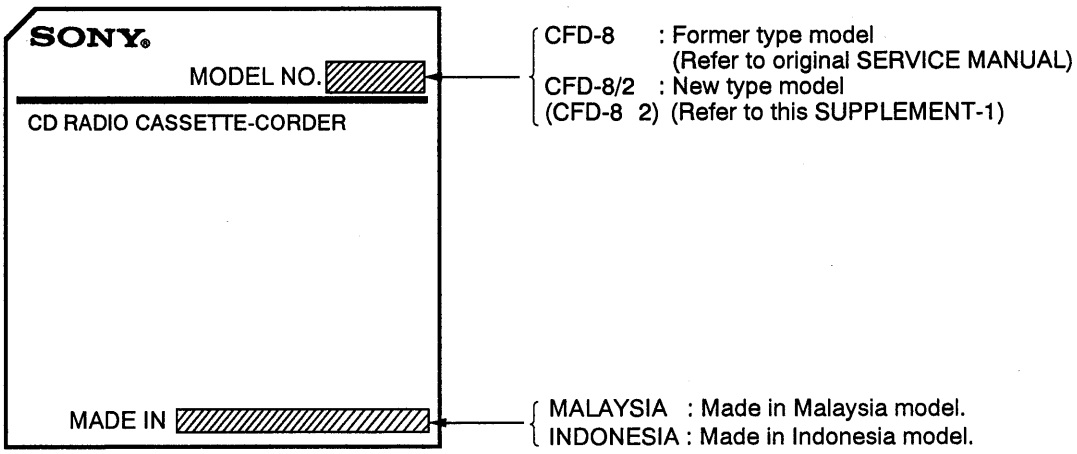
File this Supplement with the Service Manual.

Subject : OPTICAL PICK-UP TYPE CHANGE
- **ADJUSTMENT**
- **DIAGRAM**
- **EXPLODED VIEWS**
- **ELECTRICAL PARTS LIST**

(ENG-94001)

• MODEL IDENTIFICATION

– Model Number Label –


SONY
MODEL NO.
CD RADIO CASSETTE-CORDER
MADE IN
CFD-8 : Former type model
(Refer to original SERVICE MANUAL)
CFD-8/2 : New type model
(CFD-8 2) (Refer to this SUPPLEMENT-1)
MALAYSIA : Made in Malaysia model.
INDONESIA : Made in Indonesia model.

• USING MECHANISM TYPE

Model Type		Former Type	New Type
Model Name Using Similar Mechanism	CD Section	NEW	CFD-9
	Tape Section	CFS-200	CFD-9
Optical Device Type		HPC-1C	KSM-213BAN/S-N
Tape Transport Mechanism Type		MF-CFD-8	MF-D8/2

9-959-414-82

Sony Corporation
Consumer A&V Products Company
Personal A&V Products Div.

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Published by Home A&V Products Div.
Quality Engineering Dept.

1. ADJUSTMENTS

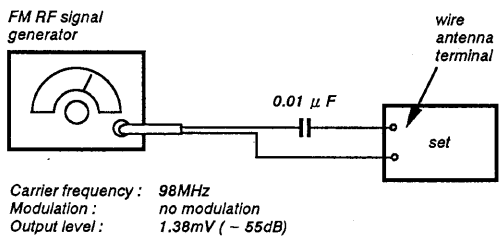
- Refer to original service manual previously issued for the other adjustment.

ELECTRICAL ADJUSTMENTS

(Service Manual See Page 11 – 14)

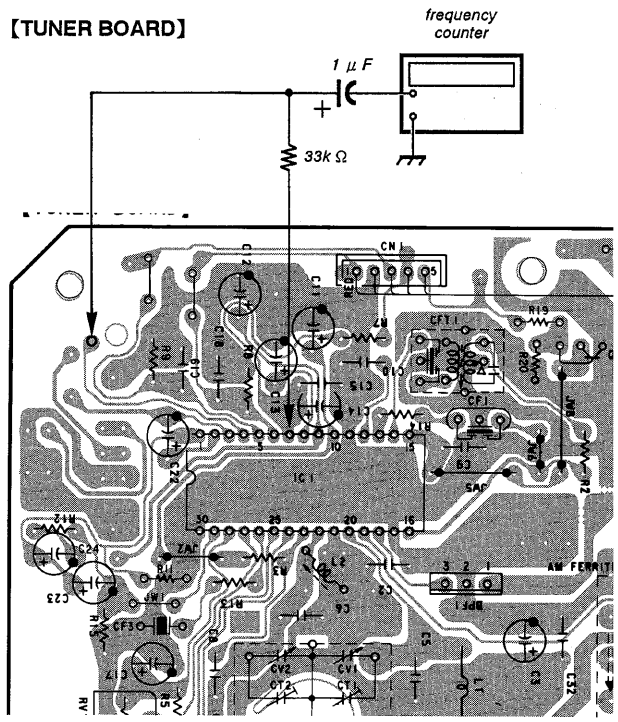
VCO Adjustment

Procedure :



1. Connect the frequency counter to ④ and ⑦ pins of IC1 as shown the figure below.
2. Turn the set to 98MHz.
3. Adjust RV1 for 76kHz ± 500Hz reading on frequency counter.

【TUNER BOARD】



CD SECTION

Note on Adjustment

1. Perform adjustment in test mode.
   After adjustment, be sure to release test mode.
2. Perform adjustments in the order given.
3. Use the disc (YEDS-18. Part No. 3-702-101-01) only when so indicated.

Before adjustment

Put the set into test mode and perform the following checks. Repair if there are any problems.

- **Sled Motor Check**

1. press ⏯ key, then press OFF button.
2. Press ⏭ , ⏮ keys and confirm that the Optical pick-up moves smoothly from the innermost to outermost circumference and back smoothly and with no catching or abnormal noises. (Cancellation of BTL mute)
   ⏭ : Optical pick-up moves to the outer circumference
   ⏮ : Optical pick-up moves to the inner circumference

- **Focus Search Check**

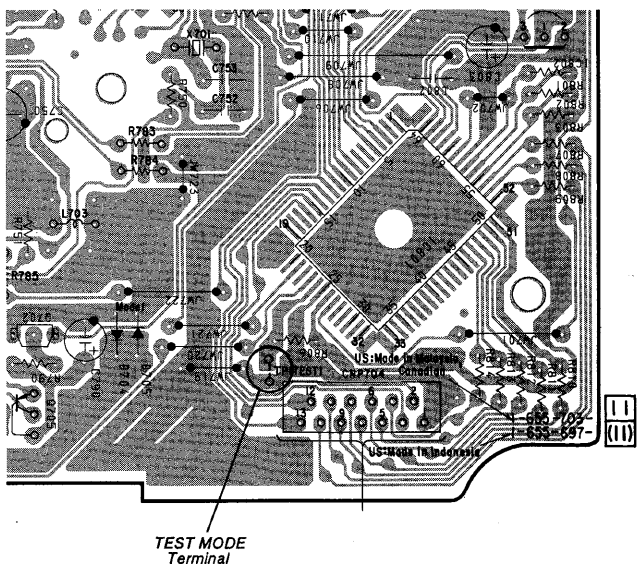
1. Press ⏯ key. (Focus search operation is performed continuously.)
2. Look at the Optical pick-up objective lens and confirm that it moves up and down smoothly, with no catching or abnormal noises.
3. Press □ button.
   Confirm that focus search operation stops. If it does not , press □ button again longer.

Note : When the malfunction is occurred by mis-passing other keys, turn off the power and check again from making the test mode.

How to Put the Set into Test Mode

1. Short-circuit following portion (IC801 ㉔ pin) on the MAIN board.
2. Turn the POWER on.
3. Open the short-circuit to release test mode.

【MAIN BOARD】

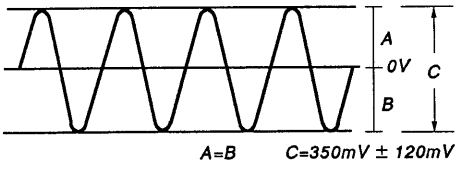


E-F Balance Adjustment

This adjustment is to be done when the optical block is replaced.

Adjustment procedure :

1. Connect oscilloscope to test point TP (VC) and TP (TEO) on main board.
2. Put the set into test mode.
3. Optical pick-up setting to the center by ⏭ or ⏮ button pushing.
4. Put disc (YEDS-18) in and press the ⏯ button.
5. Adjust RV703 so that the oscilloscope traverse waveform is symmetrical, as shown in the figure below.
6. Release test mode after adjustment is completed.



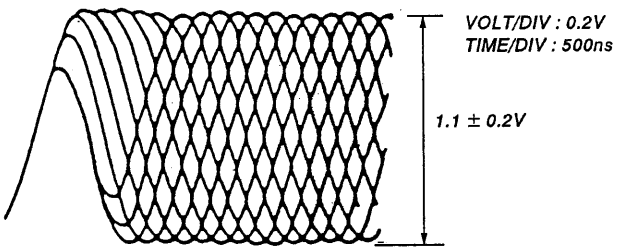
Focus Bias Adjustment

This adjustment is to be done when the optical block is replaced.

Adjustment procedure :

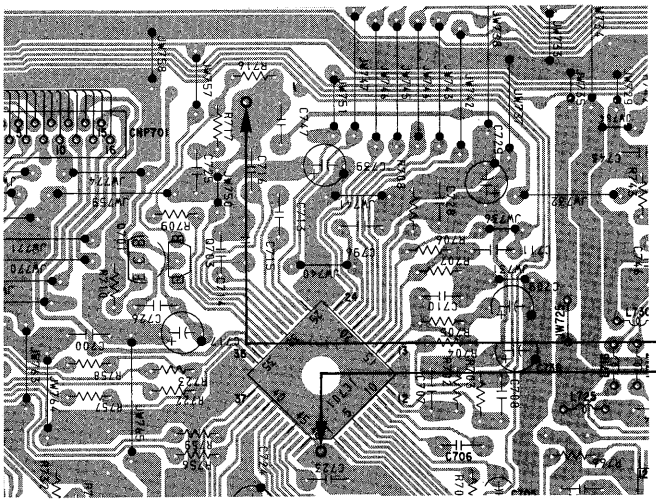
1. Connect oscilloscope to test point TP (VC) and TP (RFO) on main board.
2. Put the set into test mode.
3. Optical pick-up setting to the center by ⏭ or ⏮ button pushing.
4. Put disc (YEDS-18) in and press the ⏯ button.
5. Press the ⏯ button.(Tracking servo ON)
6. Adjust RV701 so that the oscilloscope waveform is as shown in the figure below (eye pattern).
   A good eye pattern means that the diamond shape (◇) in the center of the waveform can be clearly distinguished.
7. Release test mode after adjustment is completed.

- RF signal reference waveform (eye pattern)



When observing the eye pattern, set the oscilloscope for AC range and raise vertical sensitivity.

【MAIN BOARD】



Focus/Tracking Gain Adjustment

A frequency responce analyzer is necessary in order to perform this adjustment exactly.

However, this gain has a margin, so even if it is slightly off, there is no problem. Therefore, do not perform this adjustment.

Focus/tracking gain determines the pick-up follow-up (vertical and horizontal) relative to mechanical noise and mechanical shock when the 2-axis device operate.

However, as these reciprocate, the adjustment is at the point where both are satisfied.

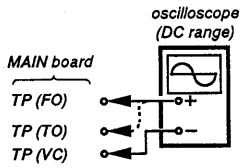
- When gain is raised, the noise when the 2-axis device operates increases.
- When gain is lowered, mechanical shock and skipping occurs more easily.
- When gain adjustment is off, the symptoms below appear.

Symptoms \ Gain	Focus	Tracking
● The time until music starts becomes longer for STOP → ⏯ button or automatic selection. (⏮, ⏭ buttons pressed.) (Normally takes about 2 seconds.)	low	low or high
● Music does not start and disc continues to rotate for STOP →⏯ button or automatic selection. (⏮, ⏭ buttons pressed.)	–	low
● Sound is interrupted during PLAY. Or time counter display stops progressing.	–	low
● More noise during 2-axis device operation.	high	high

The following is a simple adjustment method.

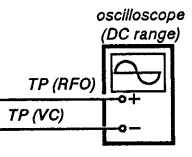
– Primary Adjustment –

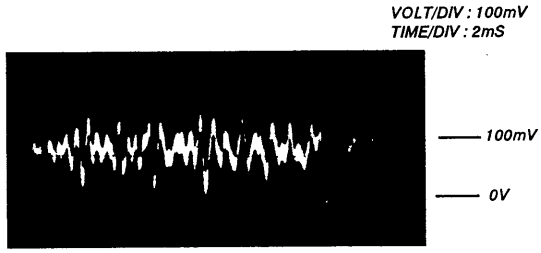
Note : Since exact adjustment cannot be performed, remember the positions of the controls before performing the adjustment.If the positions after the primary adjustment are only a little different, return the controls to the original position.



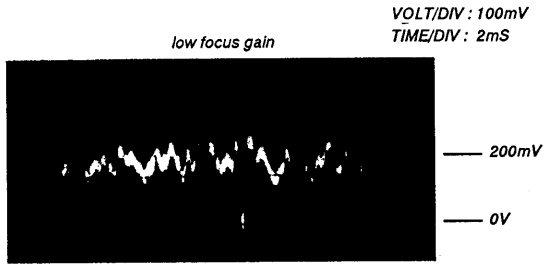
Procedure :

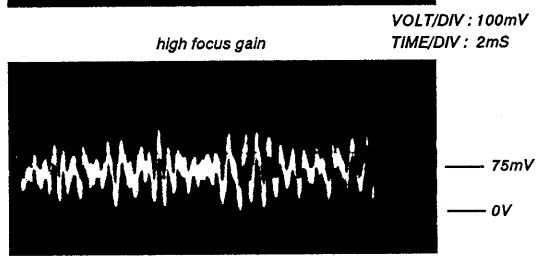
1. Keep the set horizontal.
   If the set is not horizontal, this adjustment cannot be performed due to the gravity against the 2-axis device.
2. Insert disc (YEDS-18) and press ⏯ button.
3. Connect oscilloscope to TP (FO) and TP (VC) on MAIN board.
4. Adjustment RV702 on digital board so that the waveform is as shown in the figure below. (focus gain adjustment)



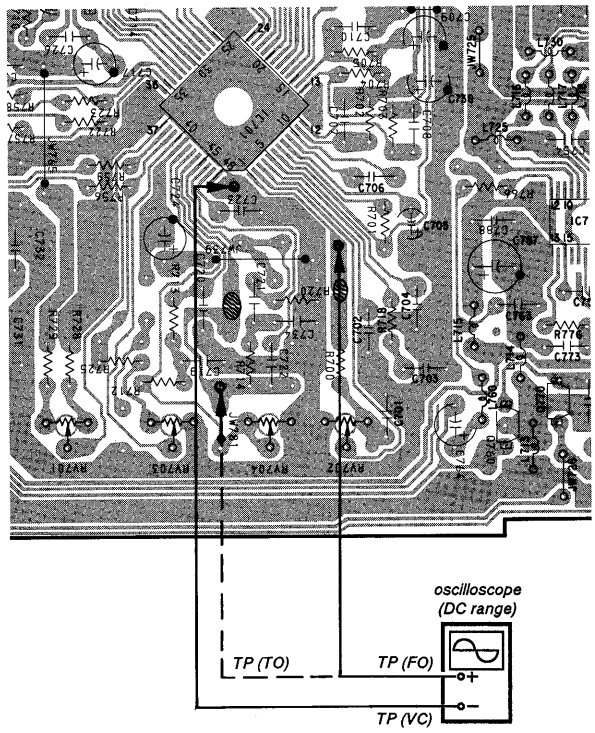


- Incorrent Examples (DC level changes more than on adjusted waveform)



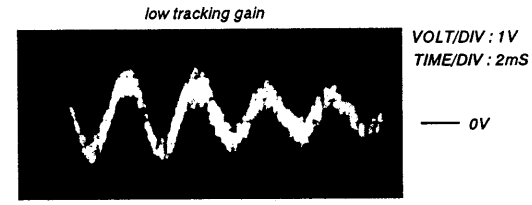


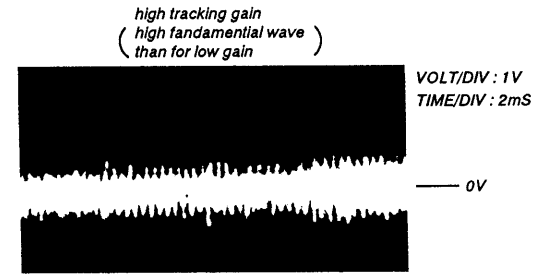
【MAIN BOARD】



5. Connect oscilloscope to TP (TO) and TP (VC) on MAIN board.
6. Adjust RV704 on digital board so that the waveform is as shown in the figure below.

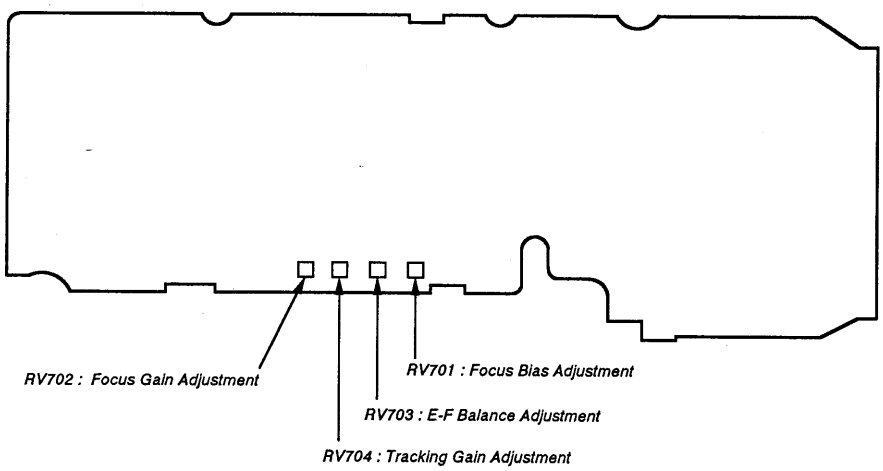
- Incorrect Examples (fundamential wave appears)





CD SECTION

Adjustment Location : Main board (Component side)



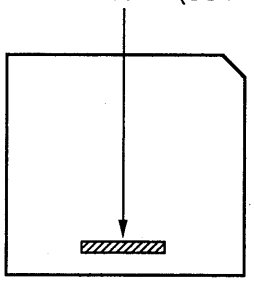
2. CHANGE OF BOARDS

The Power board, Main board, Tuner board, LEAF SW board, LCD board and CD motor board have been changed.
Main section printed wiring boards and schematic diagram of new type, and changed parts list are described in this Supplement-1.
Refer to original service manual previously issued for the other information.

NEW TYPE IDENTIFICATION

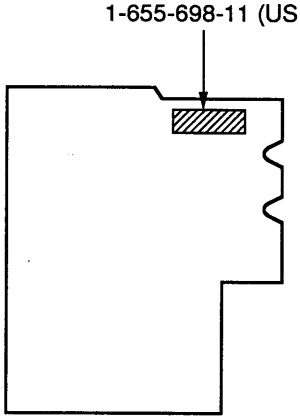
– TUNER board – (Component Side)

1-655-705-11 (US : Made in MALAYSIA, Canadian)
1-655-699-11 (US : Made in Indonesia)



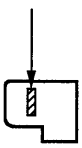
– POWER board – (Component Side)

1-655-704-11 (US : Made in MALAYSIA, Canadian)
1-655-698-11 (US : Made in Indonesia)



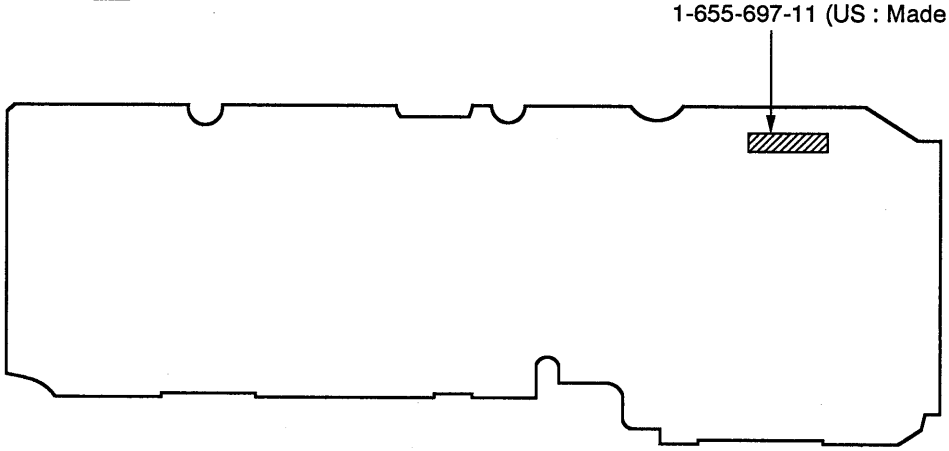
– LEAF SW board – (Component Side)

1-655-708-11 (US : Made in MALAYSIA, Canadian)
1-655-702-11 (US : Made in Indonesia)



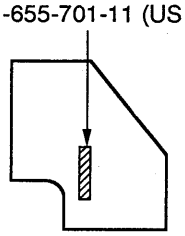
– MAIN board – (Component Side)

1-655-703-11 (US : Made in MALAYSIA, Canadian)
1-655-697-11 (US : Made in Indonesia)



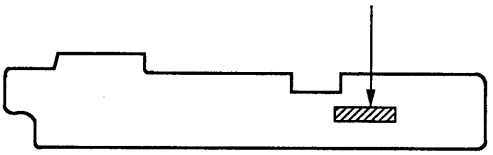
– CD MOTOR board – (Component Side)

1-655-707-11 (US : Made in MALAYSIA, Canadian)
1-655-701-11 (US : Made in Indonesia)



– LCD board – (Component Side)

1-655-706-11 (US : Made in MALAYSIA, Canadian)
1-655-700-11 (US : Made in Indonesia)



3. DIAGRAMS

- Refer to the original Service Manual (Page 15) for the Circuit Board Location.

• SEMICONDUCTOR LOCATION

Ref. No.	Location	Ref. No.	Location
D301	C - 8	Q1	D - 23
D302	C - 9	Q101	E - 1
D303	C - 9	Q201	E - 8
D304	E - 11	Q301	C - 10
D305	B - 9	Q302	C - 11
D306	F - 10	Q303	C - 9
D307	B - 9	Q304	C - 9
D308	C - 9	Q305	B - 8
D309	B - 9	Q306	C - 8
D310	F - 10	Q307	C - 12
D311	E - 11	Q308	C - 11
D313	C - 10	Q309	C - 10
D316	C - 10	Q310	C - 10
D704	E - 17	Q311	C - 10
D705	E - 18	Q312	C - 10
D901	F - 5	Q701	C - 14
D902	E - 5	Q702	E - 17
D903	E - 5	Q703	C - 14
D904	E - 5	Q705	E - 17
		Q760	E - 16
IC1	D - 22	Q770	E - 16
IC301	D - 11		
IC302	D - 8		
IC701	D - 15		
IC702	C - 18		
IC703	E - 13		
IC704	D - 17		
IC801	E - 19		
IC802	D - 20		

Note:

- ○— : parts extracted from the component side.
- ■ : parts mounted on the conductor side.
- ▒▒ : Pattern on the side which is seen.

PRINTED WIRING BOARDS

【POWER BOARD】

【MAIN BOARD】

【LEAF SW BOARD】

【TUNER BOARD】

【LCD BOARD】

【CD MOTOR BOARD】

Note :

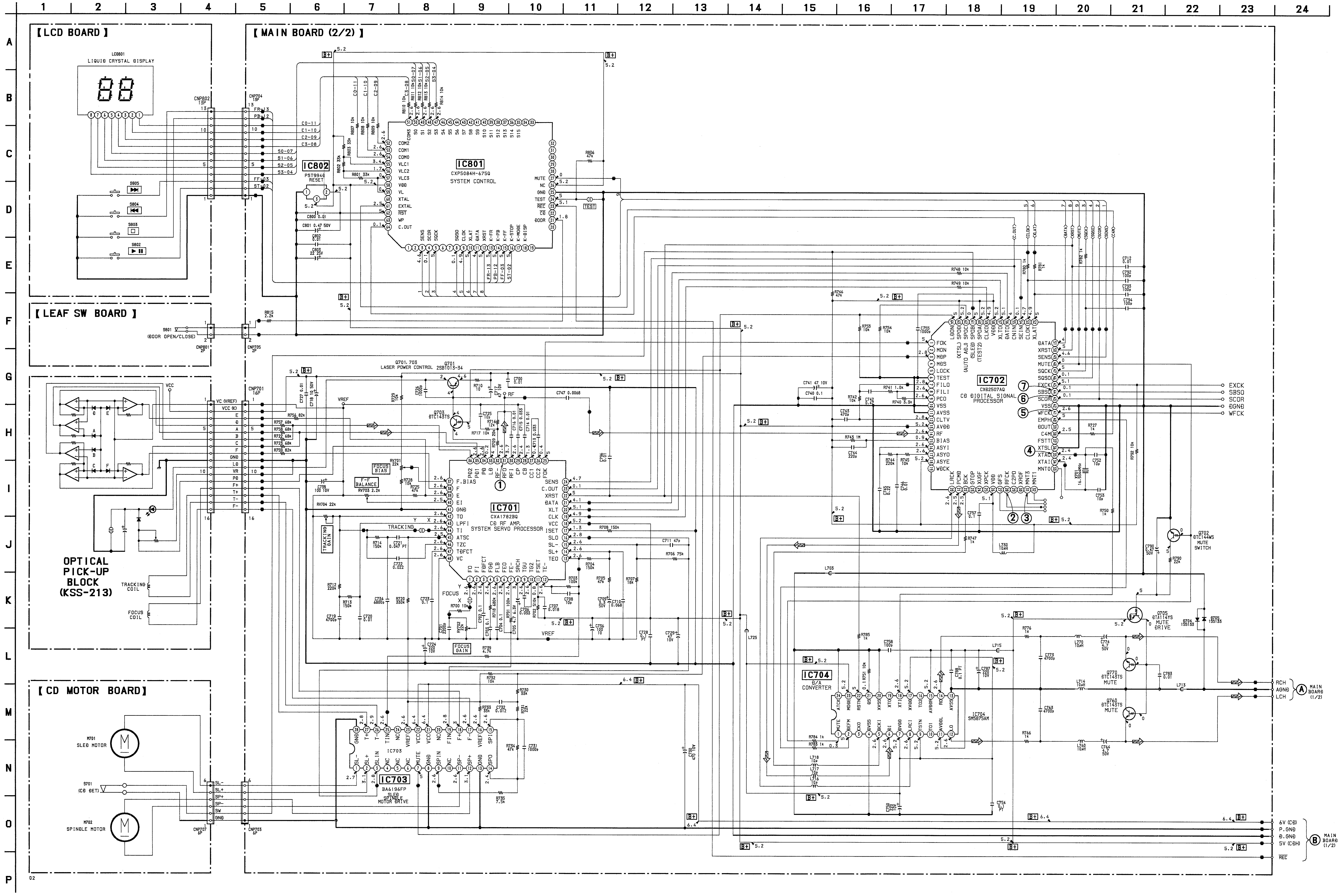
- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and ¼W or less unless otherwise specified.
- △ : internal component.

Note : The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

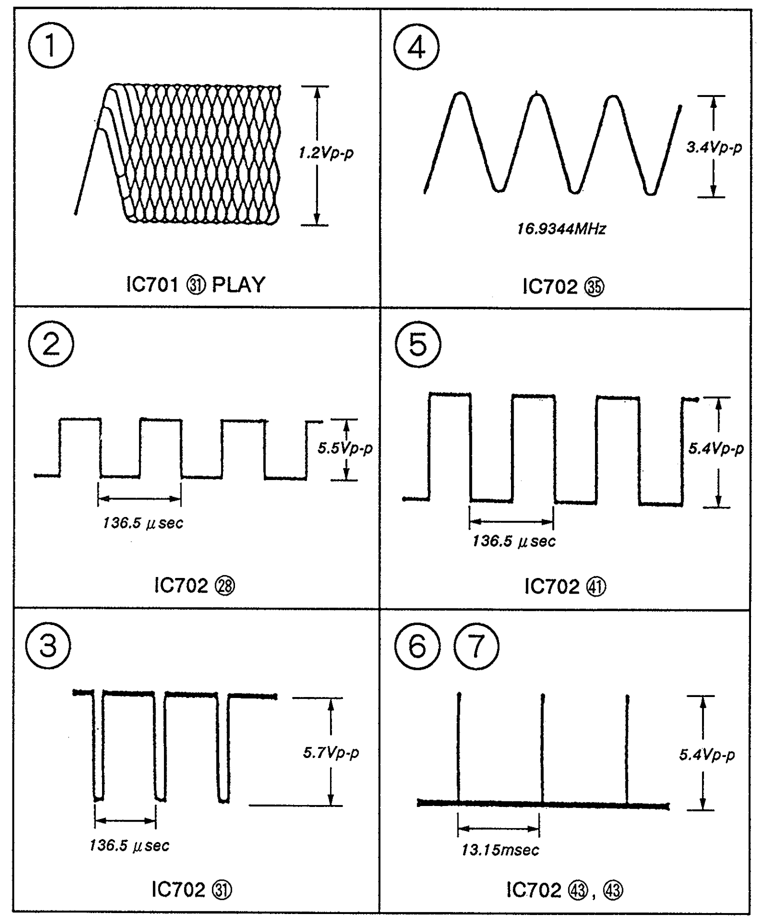
- **B+** : B+ Line
- ▭ : adjustment for repair.
- Voltage and waveforms are dc with respect to ground under no-signal (detuned) conditions.
  - no mark : FM (RADIO SECTION)
  - ( ) : AM (RADIO SECTION)
  - no mark : PLAYBACK (AUDIO SECTION)
  - ( ) : REC (AUDIO SECTION)
  - no mark : STOP (CD SECTION)
  - ( ) : PLAYBACK (CD SECTION)
- Voltages are taken with a VOM (Input impedance 10M Ω). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  ⇨ : FM ⊃ : PB ⇨ : CD ⊃⊃ : REC

SCHEMATIC DIAGRAM – MAIN SECTION –

SCHEMATIC DIAGRAM – CD SECTION –


【LCD BOARD】
LCD801
LIQUID CRYSTAL DISPLAY
【MAIN BOARD (2/2)】
【LEAF SW BOARD】
S801 (DOOR OPEN/CLOSE)
OPTICAL
PICK-UP
BLOCK
(KSS-213)
TRACKING COIL
FOCUS COIL
【CD MOTOR BOARD】
M701
SLED MOTOR
S701
(CD DET)
M702
SPINDLE MOTOR
IC801
CXP5084H-675Q
SYSTEM CONTROL
IC802
PST9940
RESET
IC701
CXA1782BQ
CD RF AMP,
SYSTEM SERVO PROCESSOR
IC702
CXD2507AQ
CD DIGITAL SIGNAL
PROCESSOR
IC703
BA6196FP
SLED
SPINDLE
MOTOR DRIVE
IC704
D/A
CONVERTER
IC704
SM5875AM
Q701, 703
LASER POWER CONTROL
Q701
2SB1013-34
Q703
DTC143TS
Q702
DTC144WS
MUTE
SWITCH
Q705
DTA114YS
MUTE
DRIVE
Q770
DTC143TS
MUTE
Q760
DTC143TS
MUTE
D704
1SS133
D705
1SS133
X701
16.9344MHz
FOCUS BIAS
F-F BALANCE
TRACKING GAIN
FOCUS GAIN
TEST
EXCK
SBSO
SCOR
DGND
WFCK
RCH
AGND
LCH
MAIN
BOARD
(1/2)
6V (CD)
P.GND
D.GND
5V (CDH)
REC
MAIN
BOARD
(1/2)

• WAVEFORMS



Note :

- All capacitors are in μ F unless otherwise noted. pF: μ μ F 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and ¼W or less unless otherwise specified.

Note : The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

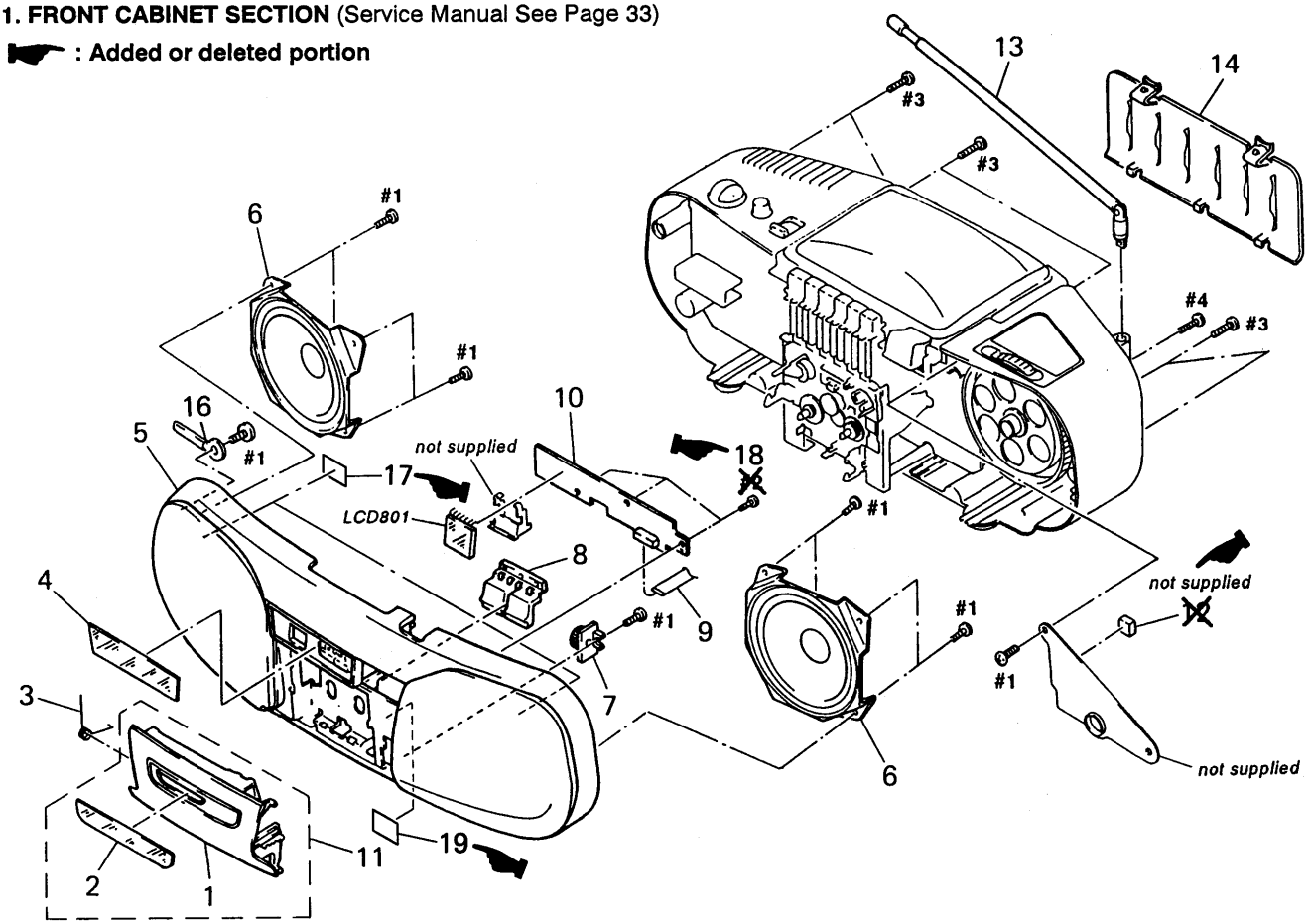
- B+ : B+ Line
- ▭ : adjustment for repair.
- Voltage and waveforms are dc with respect to ground under no-signal (detuned) conditions.
  - no mark : FM (RADIO SECTION)
  - ( ) : AM (RADIO SECTION)
  - no mark : PLAYBACK (AUDIO SECTION)
  - ( ) : REC (AUDIO SECTION)
  - no mark : STOP (CD SECTION)
  - ( ) : PLAYBACK (CD SECTION)
- Voltages are taken with a VOM (Input impedance 10M Ω). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  - ⇨ : CD

4. EXPLODED VIEWS

- Since only these sections that are different from the former type are described in this manual, refer to the original Service Manual which is issued already for the other parts.

1. FRONT CABINET SECTION (Service Manual See Page 33)

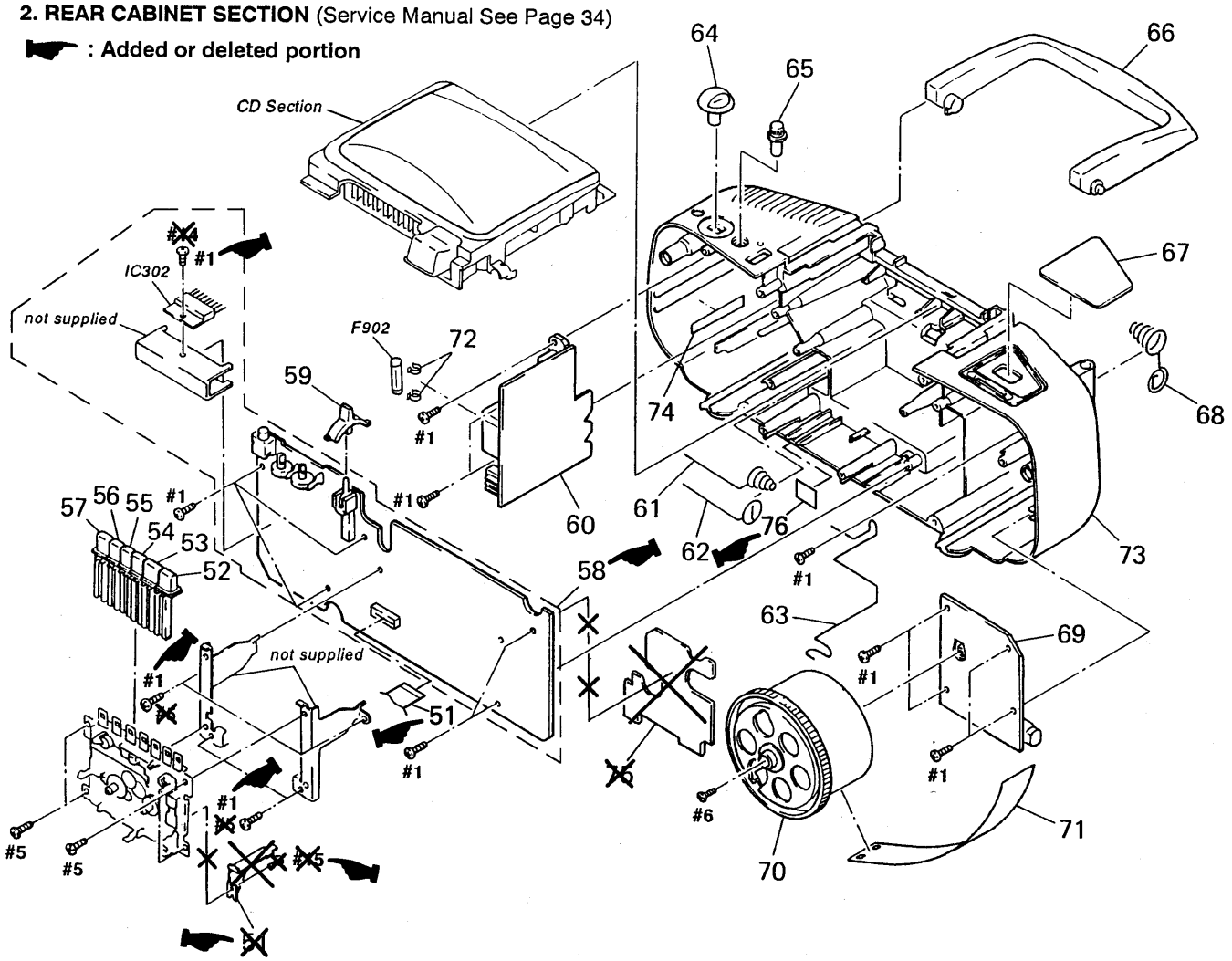
☛ : **Added or deleted portion**



Ref. No.	Former Type		New Type		Remark
	Part No.	Description	Part No.	Description	
6	1-504-505-11	SPEAKER (10CM) (US:Made in MALAYSIA, Canadian)	1-504-548-11	SPEAKER (10CM)	Changed
	1-504-548-11	SPEAKER (10CM) (US:Made in Indonesia)			
* 10	1-651-479-11	LCD BOARD	1-655-706-11	LCD BOARD (Made in MALAYSIA)	Changed
			1-655-700-11	LCD BOARD (Made in Indonesia)	
12	3-913-348-01	FELT	———		Deleted
16	3-703-150-11	STOPPER, WIRING	3-703-397-11	STOPPER, WIRING	Changed
* 17	———		3-376-847-01	CUSHION, SARANET	Added
18	———		4-951-620-01	SCREW (2.6×8), +BVTP	Added
19	———		3-379-497-01	CUSHION, SARANET	Added

2. REAR CABINET SECTION (Service Manual See Page 34)

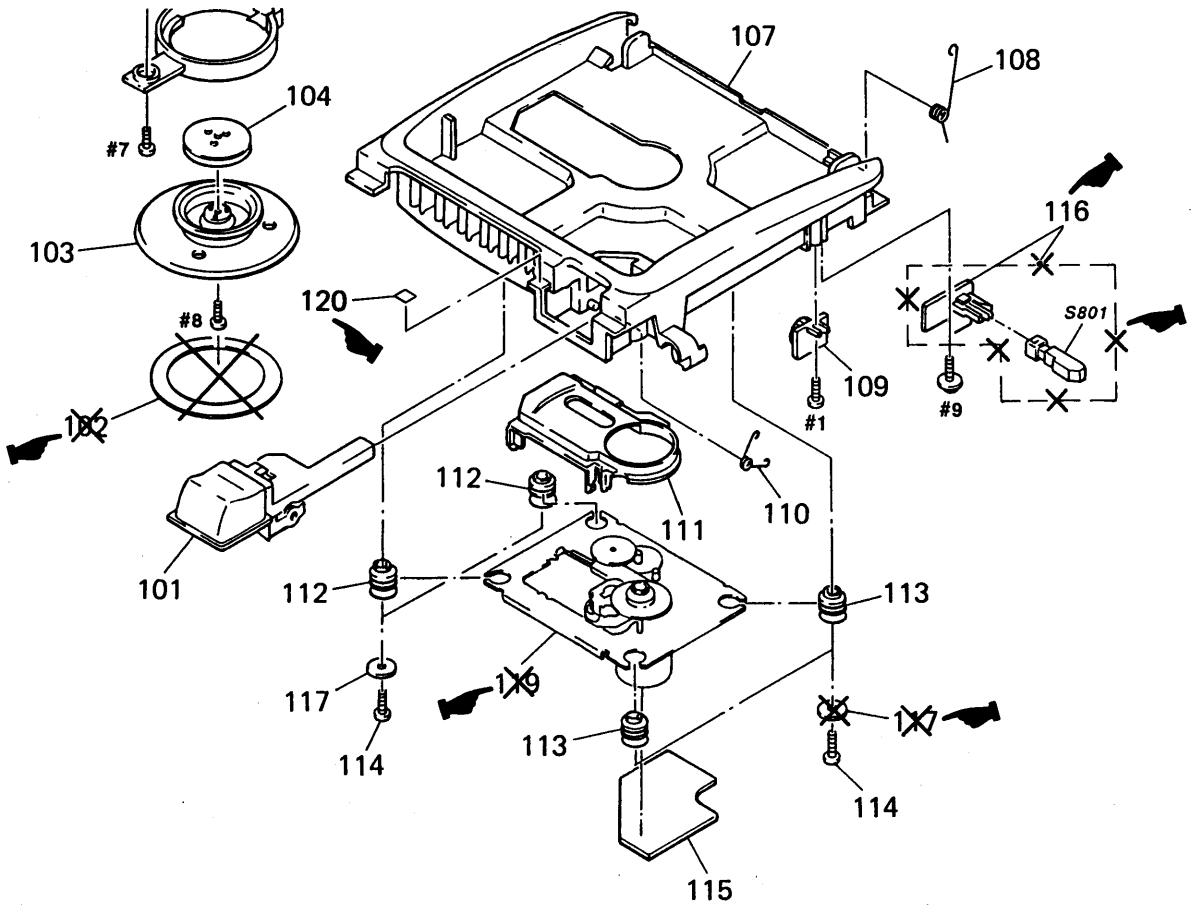
☛ : Added or deleted portion



Ref. No.	Former Type	New Type	Remark
	Part No. Description	Part No. Description	
51	3-910-098-01 LEVER (REC)	———	Deleted
* 58	A-3276-271-A MAIN BOARD, COMPLETE (US)	A-3269-910-A MAIN BOARD, COMPLETE	Changed
	A-3276-492-A MAIN BOARD, COMPLETE (Canadian)		
* 60	1-651-478-11 POWER BOARD	1-605-704-11 POWER BOARD (Made in MALAYSIA)	Changed
		1-655-698-11 POWER BOARD (Made in Indonesia)	
67	3-910-100-01 WINDOW, TUNING	3-910-100-21 WINDOW, TUNING	Changed
* 69	A-3269-062-A TUNER BOARD, COMPLETE	A-3269-908-A TUNER BOARD, COMPLETE	Changed
71	3-912-776-01 SHEET, TUNING (US:Made in MALAYSIA, Canadian)	3-923-005-01 SHEET, TUNING (Made in MALAYSIA)	Changed
	3-912-803-01 SHEET, TUNING (US:Made in Indonesia)	3-912-803-01 SHEET, TUNING (Made in Indonesia)	
75	3-914-631-01 PLATE (A), SHIELD (US)	———	Deleted
	3-914-632-01 PLATE (A), SHIELD (US:Made in MALAYSIA)		
	3-914-966-01 PLATE (B), SHIELD (US:Made in Indonesia)		
* 76	———	3-378-109-01 CUSHION, SARANET	Added

3. CD SECTION (Service Manual See Page 35)

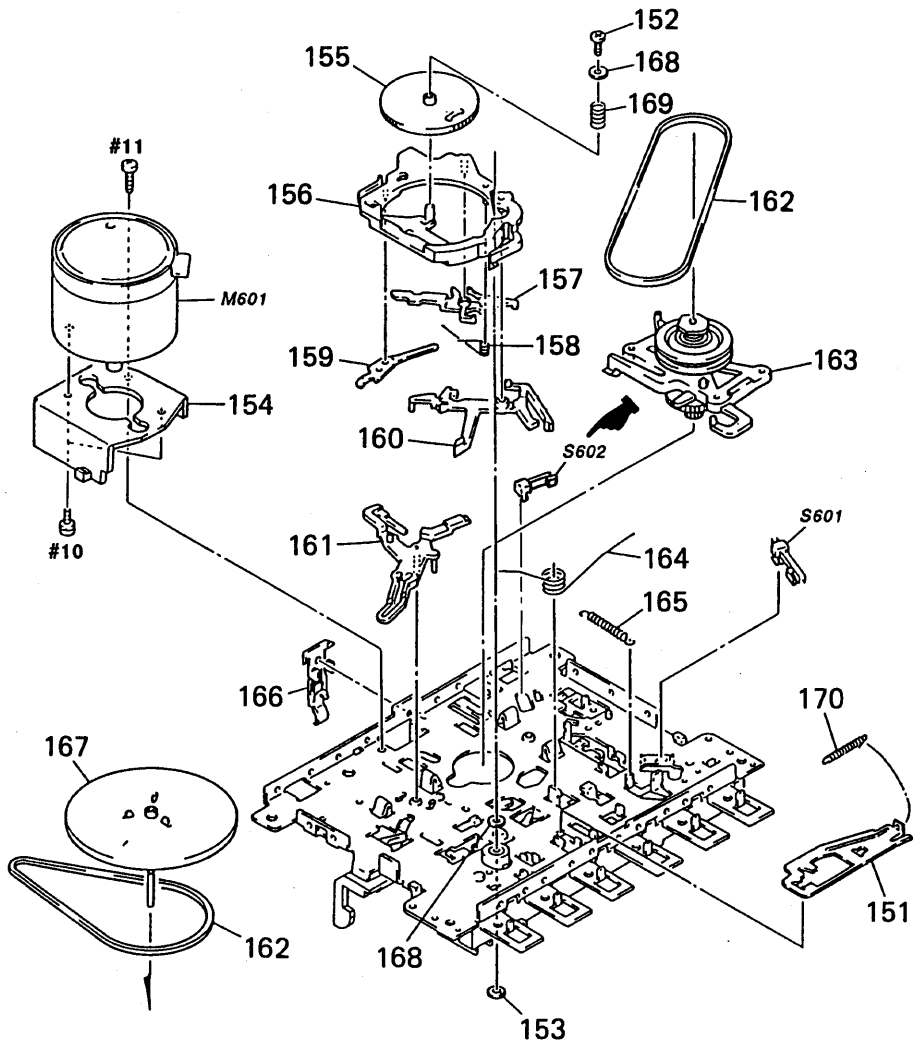
☛ : Added or deleted portion



Ref. No.	Former Type Part No. Description	New Type Part No. Description	Remark
102	3-910-094-01 CUSHION (CHUCK)	———	Deleted
103	3-910-112-01 PLATE, CHUCKING	3-923-180-01 PLATE, CHUCKING	Changed
114	3-910-096-01 SCREW (2.6×10), +PWH TAPPING (US:Made in MALAYSIA, Canadian) 3-911-135-01 SCREW (2.6×10), (+PWH) TAPPING (US:Made in Indonesia)	3-916-006-01 SCREW (2.6×16)	Changed
* 115	1-651-482-11 CD MOTOR BOARD	1-655-707-11 CD MOTOR BOARD (Made in MALAYSIA) 1-655-701-11 CD MOTOR BOARD (Made in Indonesia)	Changed
* 116	1-651-481-11 LEAF SW BOARD	1-655-708-11 LEAF SW BOARD (Made in MALAYSIA) 1-655-702-11 LEAF SW BOARD (Made in Indonesia)	Changed
117	3-831-441-11 CUSHION (US:Made in MALAYSIA, Canadian)	———	Deleted
119	1-467-655-11 PICK UP UNIT, OPTICAL	———	Deleted
120	———	3-831-441-11 CUSHION	Added

4. MECHANISM DECK SECTION (1) (Service Manual See Page 36)
(MF-D8/2)

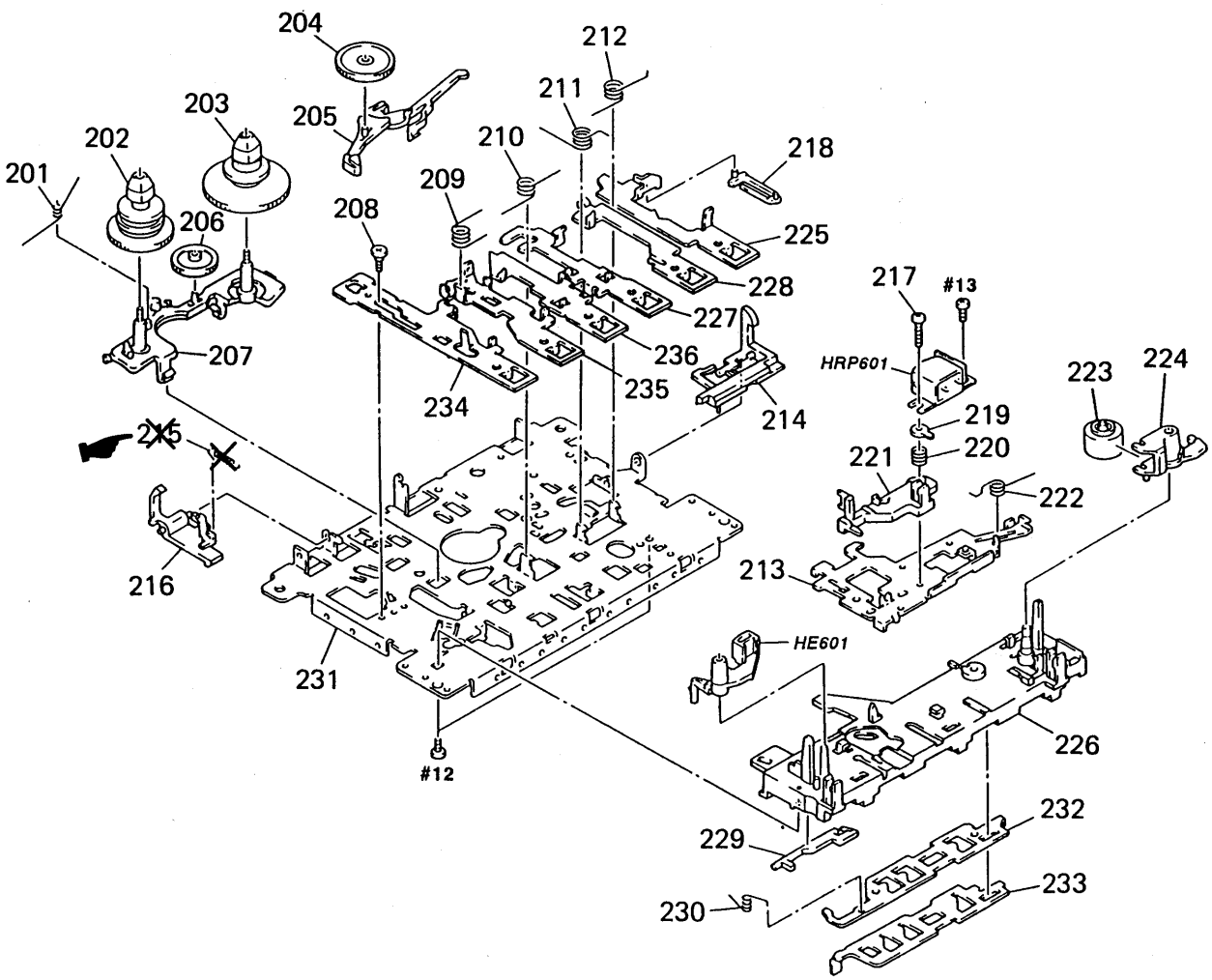
: Added portion



Ref. No.	Former Type		New Type		Remark
	Part No.	Description	Part No.	Description	
155	3-362-974-01	GEAR, CAM	X-3363-315-1	GEAR, CAM	Changed
S601	1-572-304-11	SWITCH, LEAF	1-692-434-11	SWITCH, LEAF (MD POWER)	Changed
S602	———		1-692-434-11	SWITCH, LEAF (REC)	Added

5. MECHANISM DECK SECTION (2) (Service Manual See Page 37)
(MF-D8/2)

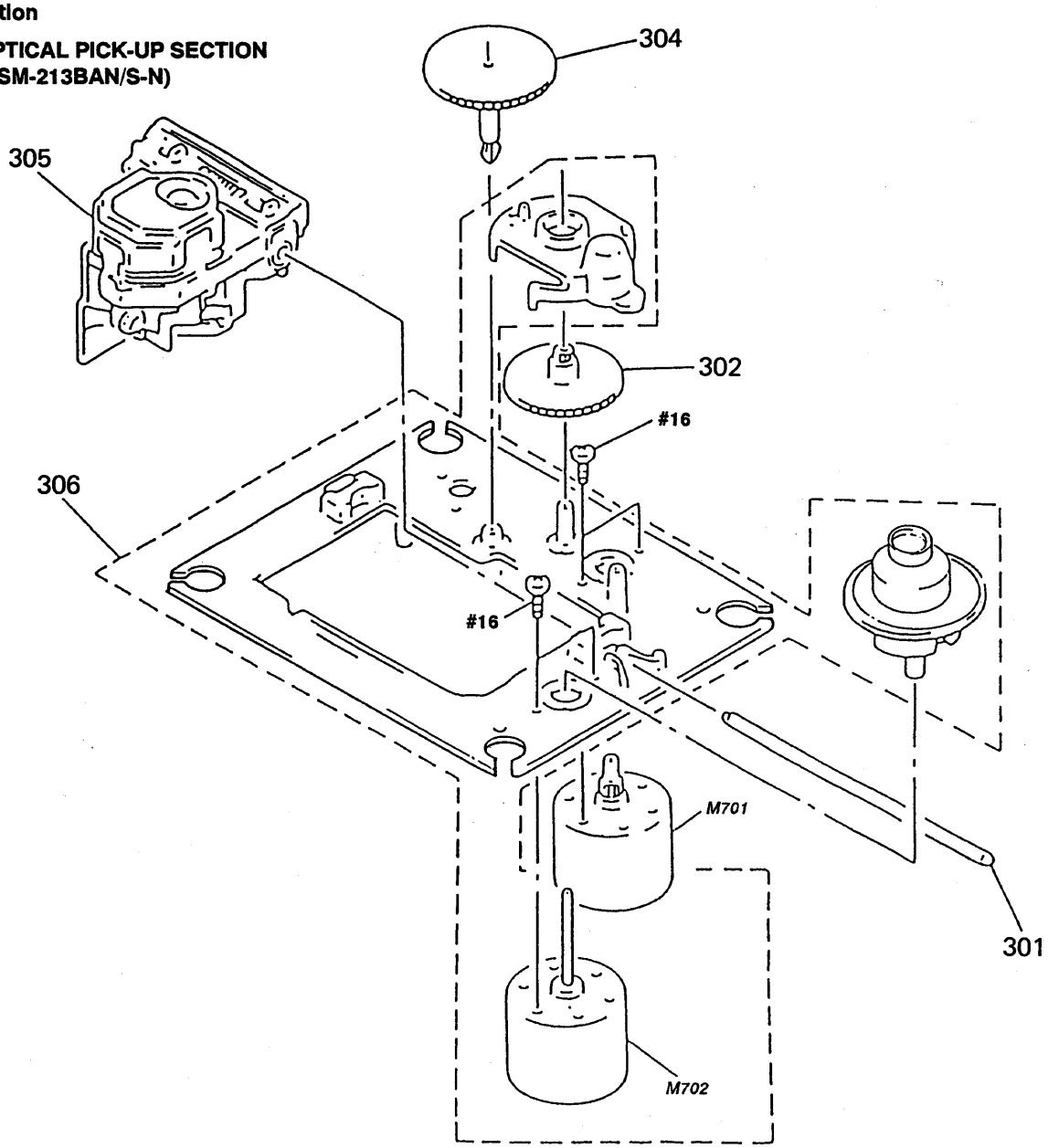
: Deleted portion



Ref. No.	Former Type		New Type		Remark
	Part No.	Description	Part No.	Description	
201	3-372-120-01	SPRING	3-917-805-01	SPRING	Changed
215	3-387-699-01	SPRING		———————	Deleted
HRP 601	1-500-005-11	HEAD, MAGNETIC (RECORD/PLAYBACK)	1-500-168-11	HEAD, MAGNETIC (RECORD/PLAYBACK)	Changed

Addition

6. OPTICAL PICK-UP SECTION (KSM-213BAN/S-N)



The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Former Type Part No. Description	New Type Part No. Description	Remark
301	———	2-626-908-01 SHAFT (S), SLED	Added
302	———	2-627-003-01 GEAR (B) (RP)	Added
304	———	2-626-907-01 GEAR (A) (S)	Added
⚠305	———	8-848-367-11 DEVICE, OPTICAL KSS-213B/K-RP	Added
306	———	X-2625-770-1 CHASSIS ASSY (MB) (RP), MOTOR (INCLUDING M702) (SPINDLE)	Added
M701	———	X-2625-769-1 GEAR ASSY (MB) (RP), MOTOR (SLED)	Added

5. CHANGED ELECTRICAL PARTS LIST

- Since only the different parts, except the Main Board section from the Former Type, are described in this manual, refer to the original Service Manual which is issued already for the other parts.

CD MOTOR

Ref. No.	Former Type		New Type		Remark
	Part No.	Description	Part No.	Description	
	* 1-651-482-11	CD MOTOR BOARD	* 1-655-707-11	CD MOTOR BOARD (Made in MALAYSIA)	Changed
			* 1-655-701-11	CD MOTOR BOARD (Made in Indonesia)	

LCD

Ref. No.	Former Type		New Type		Remark
	Part No.	Description	Part No.	Description	
	* 1-651-479-11	LCD BOARD	* 1-655-706-11	LCD BOARD (Made in MALAYSIA)	Changed
			* 1-655-700-11	LCD BOARD (Made in Indonesia)	
CNP802	1-568-856-11	SOCKET, CONNECTOR 13P	1-695-374-31	PIN, CONNECTOR (PC BOARD) 13P	Changed
S802	1-554-937-11	SWITCH, KEY BOARD (PLAY/PAUSE)	1-571-760-11	SWITCH, KEY BOARD (PLAY/PAUSE)	Changed
S803	1-554-937-11	SWITCH, KEY BOARD (STOP)	1-571-760-11	SWITCH, KEY BOARD (STOP)	Changed
S804	1-554-937-11	SWITCH, KEY BOARD (⏮AMS/SEARCH)	1-571-760-11	SWITCH, KEY BOARD (⏮AMS/SEARCH)	Changed
S805	1-554-937-11	SWITCH, KEY BOARD (⏭AMS/SEARCH)	1-571-760-11	SWITCH, KEY BOARD (⏭AMS/SEARCH)	Changed

LEAF SW

Ref. No.	Former Type		New Type		Remark
	Part No.	Description	Part No.	Description	
	* 1-651-481-11	LEAF SW BOARD	* 1-655-708-11	LEAF SW BOARD (Made in MALAYSIA)	Changed
			* 1-655-702-11	LEAF SW BOARD (Made in Indonesia)	

POWER

Ref. No.	Former Type		New Type		Remark
	Part No.	Description	Part No.	Description	
	* 1-651-478-11	POWER BOARD	* 1-655-704-11	POWER BOARD (Made in MALAYSIA)	Changed
			* 1-655-698-11	POWER BOARD (Made in Indonesia)	
L901	———		1-410-397-21	FERRITE BEAD INDUCTOR	Added
L902	———		1-410-397-21	FERRITE BEAD INDUCTOR	Added

TUNER

Ref. No.	Former Type		New Type		Remark
	Part No.	Description	Part No.	Description	
	* A-3269-062-A	TUNER BOARD, COMPLETE	* A-3269-908-A	TUNER BOARD, COMPLETE	Changed
C2	1-161-379-00	CERAMIC 0.01uF 20% 25V	1-162-306-11	CERAMIC 0.01uF 30% 16V	Changed
C9	1-161-379-00	CERAMIC 0.01uF 20% 25V	1-162-306-11	CERAMIC 0.01uF 30% 16V	Changed
C10	1-161-379-00	CERAMIC 0.01uF 20% 25V	1-162-306-11	CERAMIC 0.01uF 30% 16V	Changed
C15	1-161-379-00	CERAMIC 0.01uF 20% 25V	1-162-306-11	CERAMIC 0.01uF 30% 16V	Changed
C18	1-162-844-11	CERAMIC 0.027uF 10% 16V	1-161-053-00	CERAMIC 0.015uF 10% 16V	Changed
C19	1-162-844-11	CERAMIC 0.027uF 10% 16V	1-161-053-00	CERAMIC 0.015uF 10% 16V	Changed
C20	1-124-902-00	ELECT 0.47uF 20% 50V	————		Deleted
C21	1-124-902-00	ELECT 0.47uF 20% 50V	————		Deleted
CN1	1-506-987-11	PIN CONNECTOR (PC BOARD) 5P	————		Deleted
CNP1	————		1-506-987-11	PIN CONNECTOR (PC BOARD) 5P	Added
* L1	1-422-181-11	COIL, AIR-CORE	1-406-998-11	COIL, AIR-CORE	Changed
Q1	8-729-904-36	TRANSISTOR DTC114YS	8-729-119-78	2SC2785-HFE	Changed
R7	1-249-404-00	CARBON 82 5% 1/4W	1-249-403-11	CARBON 68 5% 1/4W	Changed
R19	————		1-249-429-11	CARBON 10K 5% 1/4W	Added
R20	————		1-249-437-11	CARBON 47K 5% 1/4W	Added
RV1	1-238-017-11	RES, ADJ, CARBON 22K (76kHz)	1-238-601-11	RES, ADJ, CARBON 22K (76kHz)	Changed

MISCELLANEOUS

Ref. No.	Former Type		New Type		Remark
	Part No.	Description	Part No.	Description	
HRP601	1-500-005-11	HEAD, MAGNETIC (RECORD/PLAYBACK)	1-500-168-11	HEAD, MAGNETIC (RECORD/PLAYBACK)	Changed
S601	1-572-304-11	SWITCH, LEAF	1-692-434-11	SWITCH, LEAF (MD POWER)	Changed
S602	————		1-692-434-11	SWITCH, LEAF (REC)	Added
S801	————		1-571-936-11	SWITCH, LEAF (DOOR OPEN)	Added

HARDWARE LIST

Ref. No.	Former Type		New Type		Remark
	Part No.	Description	Part No.	Description	
#2	7-685-134-19	SCREW +BTP 2.6×8 TYPE2 N-S	————		Deleted
#5	7-685-648-79	SCREW +BVTP 3×12 TYPE2 N-S	————		Deleted
#9	7-687-247-21	SCREW TOTSU PTPWH 3×10 TYPE2 (US:Made in Indonesia)	————		Deleted
#14	7-682-547-09	SCREW +BVTT 3×6 (S) (US:Made in Indonesia)	————		Deleted
#15	7-621-255-20	SCREW +PTT 2×4 (S)	————		Deleted
#16	————		7-621-255-15	SCREW +P 2×3	Added

MAIN

Ref. No.	Part No.	Description			Remark
	A-3269-910-A	MAIN BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C101	1-162-301-11	CERAMIC	0.0015uF	30%	16V
C102	1-104-664-11	ELECT	47uF	20%	10V
C103	1-161-020-11	CERAMIC	0.039uF	10%	16V
C104	1-162-302-11	CERAMIC	0.0022uF	30%	16V
C105	1-124-464-11	ELECT	0.22uF	20%	50V
C107	1-124-902-00	ELECT	0.47uF	20%	50V
C108	1-162-282-31	CERAMIC	100PF	10%	50V
C109	1-124-907-11	ELECT	10uF	20%	50V
C110	1-162-842-11	CERAMIC	0.018uF	10%	16V
C112	1-162-290-31	CERAMIC	470PF	10%	50V
C113	1-130-495-00	MYLAR	0.1uF	5%	50V
C114	1-124-473-11	ELECT	1000uF	20%	10V
C116	1-104-664-11	ELECT	47uF	20%	10V
C122	1-124-443-00	ELECT	100uF	20%	10V
C123	1-162-215-31	CERAMIC	47PF	5%	50V
C201	1-162-301-11	CERAMIC	0.0015uF	30%	16V
C202	1-104-664-11	ELECT	47uF	20%	10V
C203	1-161-020-11	CERAMIC	0.039uF	10%	16V
C204	1-162-302-11	CERAMIC	0.0022uF	30%	16V
C205	1-124-464-11	ELECT	0.22uF	20%	50V
C207	1-124-902-00	ELECT	0.47uF	20%	50V
C208	1-162-282-31	CERAMIC	100PF	10%	50V
C209	1-124-907-11	ELECT	10uF	20%	50V
C210	1-162-842-11	CERAMIC	0.018uF	10%	16V
C212	1-162-290-31	CERAMIC	470PF	10%	50V
C213	1-130-495-00	MYLAR	0.1uF	5%	50V
C214	1-124-473-11	ELECT	1000uF	20%	10V
C216	1-104-664-11	ELECT	47uF	20%	10V
C222	1-124-443-00	ELECT	100uF	20%	10V
C223	1-162-215-31	CERAMIC	47PF	5%	50V
C306	1-126-923-11	ELECT	220uF	20%	10V
C307	1-126-233-11	ELECT	22uF	20%	50V
C308	1-104-664-11	ELECT	47uF	20%	10V
C309	1-124-907-11	ELECT	10uF	20%	50V
C310	1-124-907-11	ELECT	10uF	20%	50V
C312	1-126-923-11	ELECT	220uF	20%	10V
C313	1-130-481-00	MYLAR	0.0068uF	5%	50V
C314	1-104-664-11	ELECT	47uF	20%	10V
C315	1-162-301-11	CERAMIC	0.0015uF	30%	16V
C317	1-124-120-11	ELECT	220uF	20%	25V
C318	1-126-937-11	ELECT	4700uF	20%	16V
C321	1-162-306-11	CERAMIC	0.01uF	30%	16V
C322	1-162-306-11	CERAMIC	0.01uF	30%	16V
C324	1-126-923-11	ELECT	220uF	20%	10V
C325	1-162-306-11	CERAMIC	0.01uF	30%	16V
C326	1-162-306-11	CERAMIC	0.01uF	30%	16V
C328	1-162-306-11	CERAMIC	0.01uF	30%	16V
C329	1-162-302-11	CERAMIC	0.0022uF	30%	16V
C332	1-124-907-11	ELECT	10uF	20%	50V
C333	1-126-233-11	ELECT	22uF	20%	50V
C334	1-162-282-31	CERAMIC	100PF	10%	50V
C336	1-162-294-31	CERAMIC	0.001uF	10%	50V
C337	1-162-282-31	CERAMIC	100PF	10%	50V
C338	1-162-294-31	CERAMIC	0.001uF	10%	50V
C339	1-162-282-31	CERAMIC	100PF	10%	50V
C700	1-162-306-11	CERAMIC	0.01uF	30%	16V
C701	1-162-302-11	CERAMIC	0.0022uF	30%	16V
C702	1-130-495-00	MYLAR	0.1uF	5%	50V
C703	1-130-495-00	MYLAR	0.1uF	5%	50V
C704	1-130-495-00	MYLAR	0.1uF	5%	50V
C705	1-131-375-00	TANTALUM	4.7uF	10%	10V
C706	1-130-489-00	MYLAR	0.033uF	5%	50V
C707	1-130-486-00	MYLAR	0.018uF	10%	50V
C708	1-162-199-31	CERAMIC	10PF	5%	50V
C709	1-126-962-11	ELECT	3.3uF	20%	50V
C710	1-130-493-00	MYLAR	0.068uF	5%	50V
C711	1-162-215-31	CERAMIC	47PF	5%	50V
C712	1-162-306-11	CERAMIC	0.01uF	30%	16V
C713	1-130-489-00	MYLAR	0.033uF	5%	50V
C714	1-162-306-11	CERAMIC	0.01uF	30%	16V
C715	1-130-489-00	MYLAR	0.033uF	5%	50V
C716	1-130-483-00	MYLAR	0.01uF	5%	50V
C717	1-104-664-11	ELECT	47uF	20%	10V
C718	1-124-907-11	ELECT	10uF	20%	50V
C719	1-162-600-11	CERAMIC	0.0047uF	30%	16V
C720	1-130-483-00	MYLAR	0.01uF	5%	50V
C721	1-130-491-00	MYLAR	0.047uF	5%	50V
C722	1-161-494-00	CERAMIC	0.022uF		25V
C723	1-130-495-00	MYLAR	0.1uF	5%	50V
C724	1-126-923-11	ELECT	220uF	20%	10V
C725	1-162-199-31	CERAMIC	10PF	5%	50V
C726	1-162-294-31	CERAMIC	0.001uF	10%	50V
C727	1-162-306-11	CERAMIC	0.01uF	30%	16V
C728	1-130-495-00	MYLAR	0.1uF	5%	50V
C729	1-104-664-11	ELECT	47uF	20%	10V
C730	1-124-472-11	ELECT	470uF	20%	10V
C731	1-162-294-31	CERAMIC	0.001uF	10%	50V
C732	1-130-484-00	MYLAR	0.012uF	5%	50V
C734	1-162-305-11	CERAMIC	0.0068uF	30%	16V
C736	1-124-443-00	ELECT	100uF	20%	10V
C739	1-124-443-00	ELECT	100uF	20%	10V
C740	1-130-495-00	MYLAR	0.1uF	5%	50V
C741	1-104-664-11	ELECT	47uF	20%	10V
C742	1-136-173-00	FILM	0.47uF	5%	50V

Ref.No.	Part No.	Description			Remark
C743	1-162-290-31	CERAMIC	470PF	10%	50V
C744	1-162-286-21	CERAMIC	220PF	10%	50V
C745	1-136-169-00	FILM	0.22uF	5%	50V
C746	1-162-306-11	CERAMIC	0.01uF	30%	16V
C747	1-130-481-00	MYLAR	0.0068uF	5%	50V
C750	1-126-923-11	ELECT	220uF	20%	10V
C752	1-162-199-31	CERAMIC	10PF	5%	50V
C753	1-162-199-31	CERAMIC	10PF	5%	50V
C754	1-130-495-00	MYLAR	0.1uF	5%	50V
C755	1-162-294-31	CERAMIC	0.001uF	10%	50V
C757	1-130-495-00	MYLAR	0.1uF	5%	50V
C758	1-162-282-31	CERAMIC	100PF	10%	50V
C763	1-162-600-11	CERAMIC	0.0047uF	30%	16V
C764	1-126-963-11	ELECT	4.7uF	20%	50V
C773	1-162-600-11	CERAMIC	0.0047uF	30%	16V
C774	1-126-963-11	ELECT	4.7uF	20%	50V
C783	1-162-306-11	CERAMIC	0.01uF	30%	16V
C787	1-126-923-11	ELECT	220uF	20%	10V
C788	1-130-495-00	MYLAR	0.1uF	5%	50V
C790	1-124-902-00	ELECT	0.47uF	20%	50V
C792	1-162-282-31	CERAMIC	100PF	10%	50V
C793	1-162-282-31	CERAMIC	100PF	10%	50V
C794	1-162-282-31	CERAMIC	100PF	10%	50V
C796	1-162-306-11	CERAMIC	0.01uF	30%	16V
C800	1-162-306-11	CERAMIC	0.01uF	30%	16V
C801	1-124-902-00	ELECT	0.47uF	20%	50V
C802	1-130-483-00	MYLAR	0.01uF	5%	50V
C803	1-126-233-11	ELECT	22uF	20%	50V

< CONNECTOR >

* CNP301	1-580-154-11	PIN, CONNECTOR (PC BOARD)	2P	
CNP302	1-506-987-11	PIN, CONNECTOR (PC BOARD)	5P	
CNP303	1-506-986-11	PIN, CONNECTOR (PC BOARD)	4P	
* CNP304	1-580-154-11	PIN, CONNECTOR (PC BOARD)	2P	
CNP306	1-506-986-11	PIN, CONNECTOR (PC BOARD)	4P	
CNP307	1-506-986-11	PIN, CONNECTOR (PC BOARD)	4P	
CNP701	1-770-674-11	CONNECTOR, FFC/FPC		
* CNP703	1-580-158-11	PIN, CONNECTOR (PC BOARD)	6P	
CNP704	1-695-336-31	PIN, CONNECTOR (PC BOARD)	13P	
* CNP705	1-580-154-11	PIN, CONNECTOR (PC BOARD)	2P	

< DIODE >

D301	8-719-901-33	DIODE	1SS133
D302	8-719-901-33	DIODE	1SS133
D303	8-719-901-33	DIODE	1SS133
D304	8-719-901-33	DIODE	1SS133
D305	8-719-109-98	DIODE	RD6.8ES-B3
D305	8-719-109-97	DIODE	RD6.8ES-B2
D306	8-719-938-69	LED	GL3PR8 (OPR/BATT)
D307	8-719-109-90	DIODE	RD5.6ESB3
D307	8-719-109-89	DIODE	RD5.6ESB2
D308	8-719-901-33	DIODE	1SS133
D309	8-719-109-69	DIODE	RD3.6ES-B2
D310	8-719-901-33	DIODE	1SS133
D311	8-719-901-33	DIODE	1SS133
D313	8-719-901-33	DIODE	1SS133
D316	8-719-901-33	DIODE	1SS133
D704	8-719-901-33	DIODE	1SS133
D705	8-719-901-33	DIODE	1SS133

< IC >

IC301	8-759-264-71	IC	TA2068N
IC302	8-759-820-22	IC	LA4597
IC701	8-752-069-56	IC	CXA1782BQ
IC702	8-752-372-94	IC	CXD2507AQ
IC703	8-759-332-98	IC	BA6196FP
IC704	8-759-283-60	IC	SM5875AM-ET
IC801	8-752-854-17	IC	CXP5084H-675Q
IC801	8-752-855-67	IC	CXP5084H-675Q
IC802	8-759-256-72	IC	PST994D

< JACK >

J302	1-566-891-11	JACK (PHONES)

< COIL >

L101	1-414-142-11	INDUCTOR	1uH
L102	1-410-509-11	INDUCTOR	10uH
L201	1-414-142-11	INDUCTOR	1uH
L202	1-410-509-11	INDUCTOR	10uH
L301	1-410-509-11	INDUCTOR	10uH
L703	1-410-397-21	FERRITE BEAD INDUCTOR	
L713	1-410-397-21	FERRITE BEAD INDUCTOR	
L714	1-410-509-11	INDUCTOR	10uH
L715	1-410-397-21	FERRITE BEAD INDUCTOR	
L716	1-410-509-11	INDUCTOR	10uH
L717	1-410-509-11	INDUCTOR	10uH
L718	1-410-509-11	INDUCTOR	10uH
L725	1-410-397-21	FERRITE BEAD INDUCTOR	
L730	1-410-509-11	INDUCTOR	10uH
L760	1-410-509-11	INDUCTOR	10uH
L770	1-410-509-11	INDUCTOR	10uH

< TRANSISTOR >

Q101	8-729-900-74	TRANSISTOR	DTC143TS
Q201	8-729-900-74	TRANSISTOR	DTC143TS
Q301	8-729-281-53	TRANSISTOR	2SC1815-GR
Q302	8-729-011-92	TRANSISTOR	2SC2001TP-K1K2
Q303	8-729-021-82	TRANSISTOR	2SD2396K

Ref. No.	Part No.	Description				Remark
Q304	8-729-011-92	TRANSISTOR	2SC2001TP-K1K2			
Q305	8-729-921-65	TRANSISTOR	DTC143ES			
Q306	8-729-119-76	TRANSISTOR	2SA1175-HFE			
Q307	8-729-921-65	TRANSISTOR	DTC143ES			
Q308	8-729-011-92	TRANSISTOR	2SC2001TP-K1K2			
Q309	8-729-011-92	TRANSISTOR	2SC2001TP-K1K2			
Q310	8-729-029-47	TRANSISTOR	DTA143ESA-TP			
Q311	8-729-119-78	TRANSISTOR	2SC2785-HFE			
Q312	8-729-921-65	TRANSISTOR	DTC143ES			
Q701	8-729-801-84	TRANSISTOR	2SB1013-4			
Q702	8-729-900-85	TRANSISTOR	DTC144WS			
Q703	8-729-900-74	TRANSISTOR	DTC143TS			
Q705	8-729-902-80	TRANSISTOR	DTA114YS			
Q760	8-729-900-74	TRANSISTOR	DTC143TS			
Q770	8-729-900-74	TRANSISTOR	DTC143TS			
		< RESISTOR >				
R101	1-249-431-11	CARBON	15K	5%	1/4W	
R102	1-249-404-00	CARBON	82	5%	1/4W	
R103	1-249-423-11	CARBON	3.3K	5%	1/4W	
R104	1-249-436-11	CARBON	39K	5%	1/4W	
R105	1-249-421-11	CARBON	2.2K	5%	1/4W	
R106	1-247-807-11	CARBON	100	5%	1/4W	
R109	1-247-807-11	CARBON	100	5%	1/4W	
R112	1-249-417-11	CARBON	1K	5%	1/4W	
R113	1-249-429-11	CARBON	10K	5%	1/4W	
R114	1-249-441-11	CARBON	100K	5%	1/4W	
R115	1-247-807-11	CARBON	100	5%	1/4W	
R118	1-249-429-11	CARBON	10K	5%	1/4W	
R201	1-249-431-11	CARBON	15K	5%	1/4W	
R202	1-249-404-00	CARBON	82	5%	1/4W	
R203	1-249-423-11	CARBON	3.3K	5%	1/4W	
R204	1-249-436-11	CARBON	39K	5%	1/4W	
R205	1-249-421-11	CARBON	2.2K	5%	1/4W	
R206	1-247-807-11	CARBON	100	5%	1/4W	
R209	1-247-807-11	CARBON	100	5%	1/4W	
R212	1-249-417-11	CARBON	1K	5%	1/4W	
R213	1-249-429-11	CARBON	10K	5%	1/4W	
R214	1-249-441-11	CARBON	100K	5%	1/4W	
R215	1-247-807-11	CARBON	100	5%	1/4W	
R218	1-249-429-11	CARBON	10K	5%	1/4W	
R302	1-249-433-11	CARBON	22K	5%	1/4W	
R303	1-247-903-00	CARBON	1M	5%	1/4W	
R304	1-249-429-11	CARBON	10K	5%	1/4W	
R305	1-249-429-11	CARBON	10K	5%	1/4W	
R306	1-249-401-11	CARBON	47	5%	1/4W	
R307	1-249-435-11	CARBON	33K	5%	1/4W	
R308	1-249-389-11	CARBON	4.7	5%	1/4W	
R309	1-249-409-11	CARBON	220	5%	1/4W	

Ref. No.	Part No.	Description				Remark
R312	1-249-417-11	CARBON	1K	5%	1/4W	
R313	1-249-419-11	CARBON	1.5K	5%	1/4W	
R314	1-249-415-11	CARBON	680	5%	1/4W	
R315	1-249-409-11	CARBON	220	5%	1/4W	
R316	1-249-441-11	CARBON	100K	5%	1/4W	
R317	1-249-411-11	CARBON	330	5%	1/4W	
R318	1-249-417-11	CARBON	1K	5%	1/4W	
R319	1-247-807-11	CARBON	100	5%	1/4W	
R320	1-249-393-11	CARBON	10	5%	1/4W	
R321	1-247-807-11	CARBON	100	5%	1/4W	
R322	1-249-437-11	CARBON	47K	5%	1/4W	
R323	1-249-423-11	CARBON	3.3K	5%	1/4W	
R328	1-249-423-11	CARBON	3.3K	5%	1/4W	
R329	1-249-423-11	CARBON	3.3K	5%	1/4W	
R330	1-249-429-11	CARBON	10K	5%	1/4W	
R332	1-249-425-11	CARBON	4.7K	5%	1/4W	
R333	1-249-425-11	CARBON	4.7K	5%	1/4W	
R334	1-249-417-11	CARBON	1K	5%	1/4W	
R335	1-249-423-11	CARBON	3.3K	5%	1/4W	
⚠R338	1-219-149-11	FUSIBLE	1	5%	1/4W	F
R700	1-249-429-11	CARBON	10K	5%	1/4W	
R701	1-249-441-11	CARBON	100K	5%	1/4W	
R702	1-247-896-11	CARBON	510K	5%	1/4W	
R703	1-249-441-11	CARBON	100K	5%	1/4W	
R704	1-247-883-00	CARBON	150K	5%	1/4W	
R705	1-249-437-11	CARBON	47K	5%	1/4W	
R706	1-247-876-11	CARBON	75K	5%	1/4W	
R707	1-249-432-11	CARBON	18K	5%	1/4W	
R708	1-247-883-00	CARBON	150K	5%	1/4W	
R709	1-247-862-11	CARBON	20K	5%	1/4W	
R710	1-249-393-11	CARBON	10	5%	1/4W	
R712	1-247-887-00	CARBON	220K	5%	1/4W	
R713	1-247-883-00	CARBON	150K	5%	1/4W	
R714	1-247-883-00	CARBON	150K	5%	1/4W	
R716	1-249-430-11	CARBON	12K	5%	1/4W	
R717	1-249-429-11	CARBON	10K	5%	1/4W	
R718	1-247-899-11	CARBON	680K	5%	1/4W	
R720	1-247-891-00	CARBON	330K	5%	1/4W	
R722	1-249-439-11	CARBON	68K	5%	1/4W	
R723	1-249-439-11	CARBON	68K	5%	1/4W	
R725	1-249-437-11	CARBON	47K	5%	1/4W	
R727	1-249-417-11	CARBON	1K	5%	1/4W	
R728	1-249-429-11	CARBON	10K	5%	1/4W	
R729	1-249-429-11	CARBON	10K	5%	1/4W	
R730	1-249-435-11	CARBON	33K	5%	1/4W	
R731	1-249-433-11	CARBON	22K	5%	1/4W	
R732	1-249-429-11	CARBON	10K	5%	1/4W	
R733	1-249-435-11	CARBON	33K	5%	1/4W	
R734	1-249-437-11	CARBON	47K	5%	1/4W	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref.No.	Part No.	Description			Remark
R735	1-247-852-11	CARBON	7.5K	5% 1/4W	
R739	1-249-425-11	CARBON	4.7K	5% 1/4W	
R740	1-249-423-11	CARBON	3.3K	5% 1/4W	
R741	1-249-417-11	CARBON	1K	5% 1/4W	
R742	1-249-429-11	CARBON	10K	5% 1/4W	
R743	1-247-903-00	CARBON	1M	5% 1/4W	
R744	1-247-887-00	CARBON	220K	5% 1/4W	
R745	1-249-429-11	CARBON	10K	5% 1/4W	
R746	1-249-437-11	CARBON	47K	5% 1/4W	
R747	1-249-417-11	CARBON	1K	5% 1/4W	
R748	1-249-429-11	CARBON	10K	5% 1/4W	
R749	1-249-429-11	CARBON	10K	5% 1/4W	
R750	1-249-417-11	CARBON	1K	5% 1/4W	
R751	1-249-429-11	CARBON	10K	5% 1/4W	
R753	1-249-429-11	CARBON	10K	5% 1/4W	
R754	1-249-429-11	CARBON	10K	5% 1/4W	
R756	1-249-440-11	CARBON	82K	5% 1/4W	
R757	1-249-439-11	CARBON	68K	5% 1/4W	
R758	1-249-439-11	CARBON	68K	5% 1/4W	
R759	1-249-440-11	CARBON	82K	5% 1/4W	
R766	1-249-417-11	CARBON	1K	5% 1/4W	
R776	1-249-417-11	CARBON	1K	5% 1/4W	
R780	1-249-417-11	CARBON	1K	5% 1/4W	
R781	1-249-417-11	CARBON	1K	5% 1/4W	
R782	1-249-417-11	CARBON	1K	5% 1/4W	
R783	1-249-417-11	CARBON	1K	5% 1/4W	
R784	1-249-417-11	CARBON	1K	5% 1/4W	
R785	1-249-417-11	CARBON	1K	5% 1/4W	
R790	1-249-433-11	CARBON	22K	5% 1/4W	
R792	1-249-429-11	CARBON	10K	5% 1/4W	
R801	1-249-435-11	CARBON	33K	5% 1/4W	
R802	1-249-435-11	CARBON	33K	5% 1/4W	
R803	1-249-435-11	CARBON	33K	5% 1/4W	
R806	1-249-437-11	CARBON	47K	5% 1/4W	
R807	1-249-429-11	CARBON	10K	5% 1/4W	
R808	1-249-429-11	CARBON	10K	5% 1/4W	
R809	1-249-429-11	CARBON	10K	5% 1/4W	
R810	1-249-429-11	CARBON	10K	5% 1/4W	
R811	1-249-429-11	CARBON	10K	5% 1/4W	
R812	1-249-429-11	CARBON	10K	5% 1/4W	
R813	1-249-429-11	CARBON	10K	5% 1/4W	
R814	1-249-429-11	CARBON	10K	5% 1/4W	
R815	1-249-421-11	CARBON	2.2K	5% 1/4W	
		< VARIABLE RESISTOR >			
RV301	1-223-403-11	RES, VAR, CARBON 20K/20K (VOLUME)			
RV302	1-241-745-11	RES, VAR, CARBON 20K/20K (TONE)			
RV701	1-238-601-11	RES, ADJ, CARBON 22K (FOCUS GAIN)			
RV702	1-238-601-11	RES, ADJ, CARBON 22K (FOCUS BIAS)			
RV703	1-238-598-11	RES, ADJ, CARBON 2.2K (E-F BALANCE)			
RV704	1-238-601-11	RES, ADJ, CARBON 22K (TRACKING GAIN)			
		< SWITCH >			
S302	1-571-345-11	SWITCH, LEVER SLIDE (FUNCTION)			
		< TRANSFORMER >			
T301	1-433-268-00	TRANSFORMER, BIAS OSCILLATOR			
		< VIBRATOR >			
X701	1-579-345-11	VIBRATOR, CERAMIC (16.9344MHz)			

CFD-8

SONY

US Model
Canadian Model

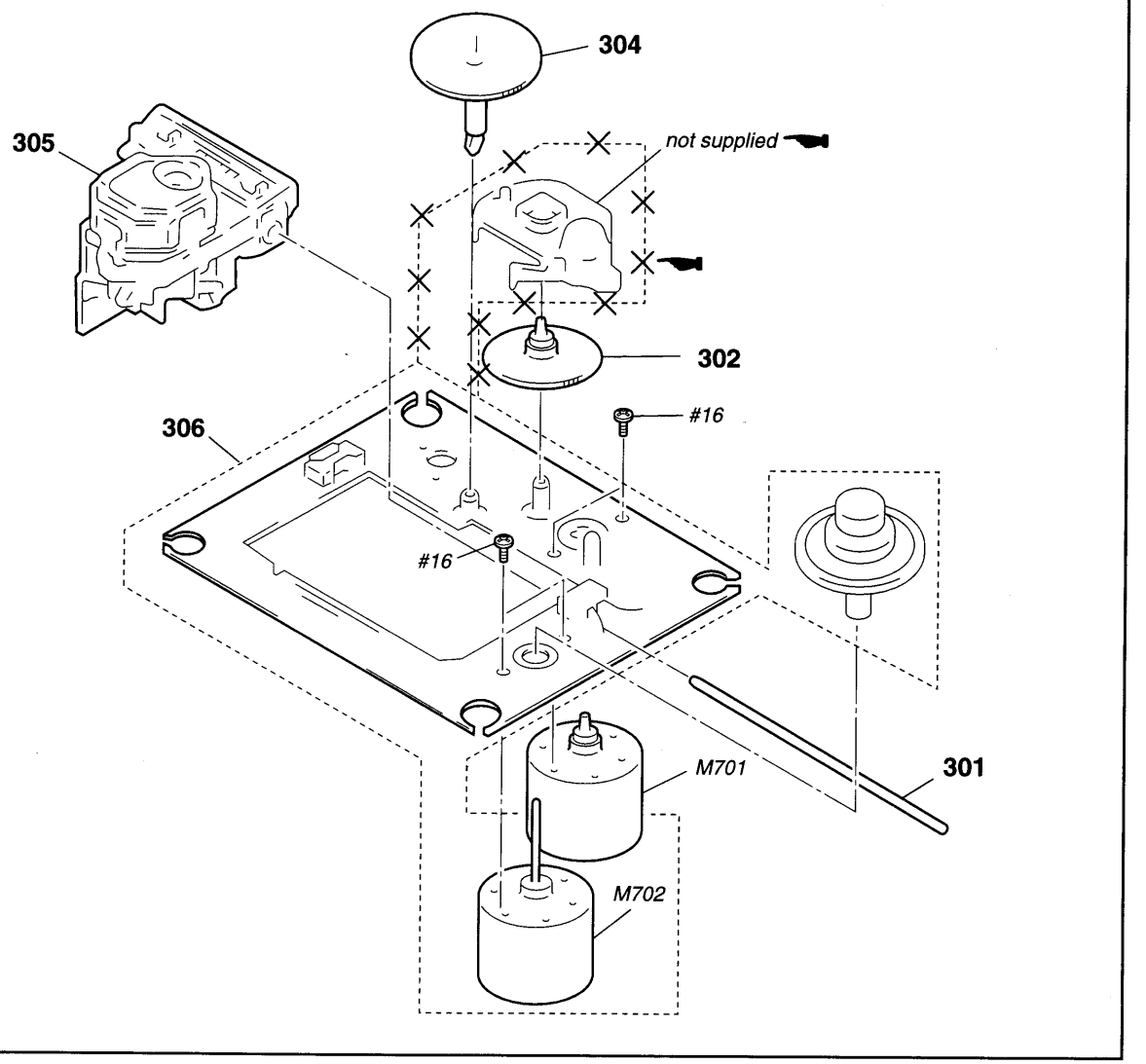
SERVICE MANUAL

CORRECTION - 1

Correct your Service Manual Supplement-1 as shown below.

7-6. OPTICAL PICK-UP SECTION (KSM-213BAN/S-N)

● ☛: Correct portion

Page	
24	

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Personal A&V Products Company

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